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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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TO DETERMINE OCEAN CURRENTS.

The Hydrographic office will shortly begin some interesting experiments to ascertain the direction and speed of ocean currents by the use of bottles. For two years the Navy Department has been conducting experiments with bottles, but with little success, in view of the fact that few of them are seen, or are not recovered. These bottles contain a printed request, asking captains to note in their log the location of their ship when the bottle is found, and to estimate, if possible, the course taken by it since it was tossed into the sea. The office will now substitute larger bottles, shaped like a water decanter, the base to be wide and bulky and the neck long and slender. On the outside are to be stamped in large bold letters "H. O." and the number. The long neck of the bottle will cause it to stand vertically, and the color and its size, it is believed, will attract attention and cause ships to slow down and read the number. By entering this in the log, with the latitude and longitude, the direction taken and the distance covered can be ascertained every time the bottle is reported. The first trial will be made early this summer, when a number of the bottles will be taken to sea by merchant ships and cast adrift.

COMMUNICATING WITH THE SHORE.

A new device for communicating with the shore has been recently brought to notice. The invention is intended to be carried on all vessels, is cheap, and easily handled. It consists, or is constructed of rubber or sheet metal. For instance, a large rubber ball is inflated, carrying a line inside. This line is attached to the stranded or wrecking vessel and the ball thrown overboard. The ball, carried by the wind, skips over the waves, carrying the line to shore, making communication and connection quicker and much surer than lines thrown by the methods now used. In a test made on the Illinois river a tin sphere less than two feet in diameter carried a line ashore in it across a strong current, thus showing what the invention will do. Many of the lives lost during the recent gales on Lake Michigan might have been saved by using this or a similar appliance, and it is the duty of the life-saving service to test, adopt and bring into popularity any of the easily constructed devices for opening up communication with the shore and a stranded vessel.

TO SAVE LIFE-SAVERS.

Much interest has centered in the Christian Endeavor work in life-saving stations, and at the international convention in Montreal, Canada, an advanced movement was made by adding the light houses and light ships to the work; also including the United Kingdom of Great Britain in the field of operation. Men were chosen to represent England, Ireland, Scotland and Wales on the international committee, which consists of representatives from every state and province where life-saving stations, light houses and light ships are located. Rev. S. Edward Young, Ashbury Park, N. J., is chairman; Rev. S. Lester Wells, 188 Grand street, Jersey City, N. J., is secretary. They delivered addresses at the Montreal convention, the former speaking of the spiritual wants and the latter of the intellectual and physical needs of the crews.

The life-savers of the world are the bravest men, and continually hazard their lives for others; they guard twenty thousand miles or more of dangerous coasts and have rescued more than a million people from shipwreck. As the most of them are isolated from home and friends, it is highly fitting that world-wide sympathy should be extended to them, also to the men connected with the light houses and light ships, upon whom vessels freighted with precious lives depend for safety. Christian Endeavor societies, located near stations or light houses, are recommended to conduct appropriate services for the crews, and also furnish comfort bags, books, magazines, papers, mitts, mufflers, wristlets, socks, yarn caps and the like for the comfort of the surfmen. Those who desire further information with reference to this noble movement may address the secretary.

WAVE QUELLING.

According to a theory recently advanced by the Hydrographic Department U. S. Navy, soap-water is the best agent for preventing the growth of waves both on account of its superior spreading power and the reduction of the surface-tension that it brings about. Since a course of practical experiments have led Dr. Koppen, of Hamburg, to recognize its superiority, seamen are asked to try the effect of solutions of various kinds of soap with fresh water, in proportions varying from 1-40 to 1-4,000, upon stormy seas, and to report the observed effects to the Hydrographic Office in Washington.

With respect to other liquids oil of turpentine is the best for spreading and reducing the tendency of the wind to form waves and increase their size. Moreover, oil appears to have a great advantage over soap-water, since it weighs less than water and does not mix with it. These qualities enable it, when spread over the surface of water traversed by waves, to maintain itself as a distinct layer whose particles do not take up the orbital motion that the particles of water have in sea-waves. Much of the efficacy of oil is due to the formation of this distinct layer with a definite surface cohesion between the particles of oil, for, the wave-mechanism is then to some extent protected from derangement since in a sea-wave the particles of water in the crest are moving forward in their orbits, or in the direction in which the wind is blowing, when they reach the surface, and the tractive effect of the wind, being brought to bear upon them at this point, causes the breaking of the crests and the consequent danger that is experienced in a stormy sea.

It is not yet known whether soap-water has any effect in lessening the breaking of waves, except that which it may exercise by preventing their growth, but mariners are urged to observe its effects, since it is upon their observations and the results of their practical experience that any improvement in the choice of a substance for calming the sea must finally rest.

TO DRAIN AN INLAND SEA.

The commission which has long been studying the scheme for the draining and reclamation of the Zuyder Zee, has concluded its labors. Twenty-one members out of the twenty-six composing the commission recommended that the projected work be carried out.

It is proposed to reclaim from the sea about four hundred and fifty thousand acres, the value of which is estimated at 326,000,000 guilders. The cost of this immense work is computed at 189,000,000 guilders, or with the accumulated expenditure, including measures of defense and the payment of compensation to the fishermen of the Zee, at 315,000,000 guilders. The drainage is to be carried out by means of a sea dike from Northern Holland into Friesland. The commission is unanimous in recommending that the work should be executed by the government.

NEW TONNAGE.

In a list of forty-seven vessels to which official numbers were assigned by the Bureau of Navigation, Treasury Department, Washington, D. C., during the week ending May 19, 1894, the following lake tonnage is found: Steam—J. R. Sprankle, 45 tons gross, Cleveland, O.; Pinolo, 25 tons, Cleveland, O., and the Marguerite, 27 tons, Cleveland, O.; Pup, 14 tons, Grand Haven, Mich., built at Saugatuck, Mich. Sail—M. Q. Wilcox, 28 tons, Cape Vincent, N. Y., built at Chaumont, N. Y. Unrigged—Conkley & Dunn, 98 tons, Oswego, N. Y., built at Beanhard's Bay, N. Y.; John B. Dixon, 114 tons, Oswego, N.Y., built at North Bay, N.Y.

NEWS AROUND THE LAKES.

CHICAGO, ILL.

Special Correspondence to The Marine Record.

There was a slight improvement in grain freights of one-eighth of a cent on corn to Buffalo on Tuesday.

Elphicke & Co. chartered the steamer H. W. Sibley for 70,000 bushels of corn and schooner Twin Sisters for 53,000 bushels of corn, both to Kingston at 2⅝ cents.

Michael Cudahy's handsome new steam yacht Catharine C., Captain Buscey, arrived last week from Detroit. She will make a fine addition to the steam yacht fleet at this port.

The launch at the Chicago Ship Building Co.'s shipyard of the new steel steamer Kearsarge did not come off on Tuesday. She is to be launched Thursday afternoon at 3 o'clock.

Capt. Robert Symmonds, of Kenosha, owner of the schooner Wolverine, was here Tuesday. He has recently given his schooner a thorough overhauling and new spars at a cost of $1850.

The owners of the schooner Lem Ellsworth, lost on Lake Michigan in the recent gale, request that any information about wreckage or bodies from that vessel be sent to C. A. Chamberlain, at Detroit.

The schooner City of Grand Rapids, which had her fore top-mast and main-mast carried away by collision with the schooner Guide when entering the harbor in the heavy gale on the night of May 18th, has received new spars.

The tug Robert Tarrant rolled over, filled and sank in the harbor near the life saving station Thursday morning, when towing the steamer Fred Pabst. The Tarrant was raised the same day by her owners, the Dunham Towing & Wrecking Co., and was doing towing again on Friday.

A new freight and passenger line has been formed to run between Chicago, St. Joseph and Burton harbor. The freight and passenger office will be at O'Connor's dock, foot of Michigan street. The steamer Puritan will open up the route June 3rd, and another steamer will join her about July 1st.

The steel steamer Cragg, of Christiana, Norway, Captain, C. Johnson, arrived here Sunday night from Bergen, Norway, with herrings. She left Bergen April 22nd. She was built by R. Cragg & Son, at Middlesboro-on-Tees, Eng., and is of the following dimensions: 124 feet long, 27 feet beam, 12 feet hold; her engine is a triple expansion. Her captain says she is an excellent sea boat. She will leave here for Bergen on Saturday with a cargo of flour and pork.

Inspector C. A. Abbey, of the life-saving service, is holding an investigation of the life-saving crew of two paid men left here to look after the life-saving station, who, with some volunteers, did their very best to save life during the heavy gale of the 18th inst. It will without doubt be found that those brave men were not at fault for the loss of life, but that the fault should lie on the shoulders of the officials at Washington who had neglected to provide a sufficient crew of life-savers at this port.

At Miller Bro.'s shipyard the steamer Chicora is in dock for a new wheel, the steamer City of New York for a new shaft and stern pipe, the steamer City of London was in for re-calking all over, the barge, H. A. Kent to have a leak stopped, schooner City of Toledo for repairs and calking, steamer Jay Gould for repairs to stern bearing and some calking, schooner Commerce and tug Welcome to have leaks stopped, schooner F. W. Gifford received new jibboon, schooner Guide new jibboom and bowsprit, schooner W. Taber new main gaff, tug Munson was in dock for repairs to stern bearing and calking.

Capt. John Prindiville chartered the steamer C. H. Green for 40,000 bushels of corn to Kingston at 2½ cents, the schooner Our Son for oats to Buffalo at 1¼ cents, J. J. Rardon & Co. the steamers Caledonia and Gladstone for corn to Buffalo at 1¼ cents, Palmer Cook & Calbick chartered the schooner New Orleans for oats to Buffalo at 1⅛ cents, the steamer Walter Vail for oats to Buffalo at 1¼ cents, the schooner Baltic for corn to Buffalo at 1¼ cents, the steamer W. B. Morley and consort H. A. Kent for corn to Buffalo at 1⅜ cents. J. J. Keith & Co. chartered the steamer John Duncan for corn to Kingston at 2⅝ cents, the steamer Helma for corn to Buffalo at 1¼ cents.

The steamer City of New York, Capt. Robert Cazallis, arrived here Saturday night with a bent shaft and a broken stern pipe. She encountered the heavy gale of May 18th on Lake Superior and was compelled to seek shelter with her consorts S. H. Foster and Melvin Bacon at Copper Harbor. When about eight miles off that port she bent her shaft whilst towing her consorts against the gale, but managed to get them in there safely. They left Copper Harbor on the 22d and proceeded on their voyage. When off Point Betsey, Lake Michigan, Capt. Cazallis was compelled to let go the consorts as she was leaking so badly through the broken stern pipe caused by the bent shaft that her siphons and bilge pumps that had been in use ever since she left Copper Harbor would not keep her free and he ran the steamer into Manistee and there temporary repairs were made; she then proceeded to St. Joseph where she and her consorts were consigned with lumber from Washburn, Wis. All three arrived here in safety. Much credit is due to Capt. Cazallis aud his officers for the skill displayed in handling their boat and con sorts.

CLEVELAND, O.

Special Correspondence to The Marine Record.

The passenger line boats out of this port are now running on schedule time and a fair business is being done considering the otherwise dull season.

Capt. Hawgood has started out on a two months tour to Europe. He will visit his native place in the south of England and transact some business there during his stay.

Capt. Shaw, ships-husband for the Shaw-Eddy fleet was in town this week chasing up his fine large tonnage, expediting clearances and securing charters of the best that's going.

General Manager Newman, of the Buffalo line of steamers, reports a brisk traffic in passengers and freight and expects the season to develop in full force when warmer weather sets in.

The recent California trip taken by Mr. William Wilson does not seem to have improved his health to the extent that was at first anticipated; at least he is not regularly at business yet, nor so punctually at his desk as formerly.

Capt. McLeod, Manager of Inland Lloyds, says that constructive work and lines of the new steamer Wolverine State, built at Linn's yard, Gibraltar, is equal to the best he has ever seen. Capt. George McCullagh has an interest in and will sail the new vessel.

It is Capt. Alfred Mitchell and not John that has been under the weather for a few days. The irrepressible Capt. John would not knuckle down to anything less than eighteen doctors orders. Capt. Alfred is now convalescent and will soon be found floating around again as usual.

Coal for fueling steamboats and tugs is becoming very scarce in the river and the price has been advanced to all except the regular customers. It is said that there are less than 1,000 tons on the docks and that it is all owned by one company. The tug companies will make another attempt to burn hard coal in their furnaces if the fuel supply gets any shorter.

The new fire boat has to conform with the laws of the Steamboat Inspection Service and purchase a useless equipment. The local inspectors are not at liberty to alter the rules for special tonnage or to add to or exclude anything from the government outfit of pumps, compasses, life boat, position of lights, etc., and there have been no rules framed for fire boats, however, the useless outfit is good for trade, and the municipality is well able to foot all such sundry bills.

The steamer Brittanic, Capt. Ira Mansfield, ore from Escanaba, and owned by Capt. C. E. Benham, is reported stranded on White Shoal, Lake Michigan. There is a lightship on the shoal and it cannot be surmised how the Brittanic stranded there. Her consort, the Mattie C. Bell, cleared the shoal and immediate assistance was dispatched to the relief of the steamer.

Work at the yards of the Cleveland Ship Building Co. on the new steel freight steamer building to the order of the Minch estate is being carried on with a large force of men. The stem and stern post is up, also a number of frames at each end and the water bottom is almost completed. Foundry, boiler and other departments of the "Cleveland" are kept working on full time and a still more brisk outlook is promising.

The outlook for fuel is now looking serious and vessel owners keep on the still hunt to have a few tons ahead ready to fuel up any of their boats calling here. The scarcity is pressing day by day and even where boats have been kept running steady never paying to exceed $3 per ton for fuel, it is now feared that the difficulty of getting fuel even at the higher price will be greater than has yet been felt so that a number of boats will shortly be compelled to lay up.

The River Machine & Boiler Works (Teare & Thomas), River street, has been keeping a large force of skilled machinists on their pay roll and finding plenty for them to do in shop and outside work during the past few months. The engine work and shafting, as well as portions of the constructive work on the new steel tugs building for the Cleveland Tug Co., and the powerful deck engines built as a specialty by this firm furnishes employment at the present time.

The Chase Machine Co. are making a stock of the Chase Automatic Fog Whistle machines and intend pushing the sale of this valuable specialty in vessel equipment on the coasts as well as the lakes. A fair share of marine repair work and the pump which the firm make a specialty of keeps the shop well supplied with work, and in view of enlarging the plant in the near future, additional property adjoining their present works has just been purchased by the firm.

Repair work on the steel steamer S. S. Curry is progressing under the hands of the Globe Iron Works Co. and she will be out again in a few days with a new stem and upper shell plates forward. The sister ship of the North West is being steadily pushed along towards completion, though no date has yet been set for her launch. Work on the new steel freight steamer whose keel was laid down on builders account is also moving steadily along and a good deal of her outside plating is on.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

Capt. Freitsch and his little schooner Nina, enroute from Milwaukee to Europe, arrived here all well on Monday last. He says that he is thankful to have completed his lake journey, and declares that he considers the worst of his trip now over. During the recent storm on Lake Erie he crossed the lake from the Canada shore to the Islands, where he lay windbound for a day or two. He goes from here to the seaboard by canal and then begins his lone voyage across the Atlantic in the small schooner. He is apparently well prepared for bad weather and is fully alive to what he may meet with on his Atlantic cruise. The Hydrographic Office, U. S. Navy, has so much to say relative to oil, soap suds, etc., in stilling broken water that it ought to give Freitsch an equipment of their best wave quellers, so that he could practically test the theory upheld by the department.

The Elevator Association is making war on the floating elevators, and it is now thought that the latter will come out second best. The Association has not been doing a brisk business lately, and the floating elevators have rather monopolized the transfer of cargoes from vessels to the canal boats for some time past. Then again, owing to the small amount of grain moving, it has been impossible for the big elevators to get any rush of business. The Association rates are nominally ⅞ of a cent, while the floating elevators have been handling cargoes at ⅜. Canal boats were this week towed up to several of the stationary elevators to load, an unusual sight, and the report soon spread that the association was cutting rates. The elevator men will not acknowledge this, but it is generally understood that a man with a cargo can make his own terms and secure a rebate in accord with his own ideas. An elevator man said that "the association will charge 7-8 cents for elevating grain, no matter what may be done otherwise. They may pay a rebate to the grain owners, but the actual charges will remain as they are." At the same time steamers are having their grain transferred by the association and presumably at easier rates than is offered by the floating elevators. Meanwhile the canal forwarders make about their own terms, for the transfer rate may be quoted at anything below ⅞ of a cent, according to what forwarders desire to pay or be charged at.

DULUTH, MINN.

Special Correspondence to The Marine Record.

F. L. McDonald, of Duluth, was the lowest bidder of the ten firms which figured on the new life saving station to be erected on Park point. His bid was $3,468.

A cargo altogether new to the head of the lakes was brought in by the Ford, of the new Duluth-Ogdensburg line, the other day, in an invoice of cotton cloth for flour bag making, a plant for that purpose having started up at Superior.

The first cargo of barytes is being put through the new mill arranged for the purpose, and another will be brought down from McKellar's Island, near Port Arthur, in a few days. This manufacture seems to be destined to become a very important industry here.

Wheat stocks have decreased but slightly in the past week and are now about 8,500,000 bushels. There is quite a sharp demand for tonnage to load prior to the 1st of June, but the 80 cent rate on ore has sent all the available vessels in that direction and grain tonnage is scarce.

There should have been a heavy shipment of flour the past week, but this too has been cut off by the bunching of tonnage by the late storms. Flour will go out very fast indeed this week. Millions of feet of logs are still floating about in the bays and lake and the efforts made to catch them have not resulted very successfully yet. The loss to loggers may be larger than was expected.

At present only six mines in Minnesota are being operated, the Chandler and Minnesota on the Vermilion range, each shipping about 3,000 tons daily; the Canton, Oliver, Mountain Iron and Franklin on the Mesaba, sending out from 4,000 to 1,000 tons a day respectively. The Hale, Pioneer, Lake Superior and perhaps the big Biwabic are booked to start in June. Some ore sales

are being made by the Rockefeller interests at the old figures and the inquiry for ore is said to be improved. The Rockefeller company, which is now paying a dollar and better per day to its men has arranged a scheme for better pay based on an excess of product, per man, over the average.

A new group of what appears to be large and valuable mines has been opened on the Mesaba to the south of the group about Virginia. In this group, besides the Adams, which was mentioned in this journal some time ago, are four properties on which exploratory work has been carried on during the winter and spring. One of these is the McInnis, where 10 pits have been sunk from 20 to 50 feet in an ore that assays as high as 65.50 iron and .021 phosphorus. The land lies on a hillside, can be easily worked, has a surface of 40 feet and is owned in fee by a Chicago timber owner who leases at 35 cents royalty. A second belongs to the Roucheleau-Ray Co., of this city in fee. Diamond drill holes have explored a large ore body and a working shaft is now sinking. A third is the St. Clair, where 12 pits are in ore from 20 to 75 feet. Two large working shafts are being sunk. The fourth is the Helmer, where ore was first found in a moose runway last fall. All these are in a radius of a mile and all are probably one large deposit. None of these properties as yei have railway connection and will not have, in all probability, this year.

Iron ore shipments from the mines of the Vermilion and Mesaba ranges far exceed to date, the corresponding time last year. This is, however, partly owing to the fact that the season began nearly three weeks earlier. Still the actual daily work is better than in 1893. For instance, the Duluth, Missabe & Northern shipped only 80,000 tons to August last year, while it had sent out 62,000 tons up to last Saturday night of this season. The Duluth & Iron Range road had sent out 215,000 tons to the same date, or 16,000 more than to the corresponding time in 1893. In the past two weeks this road has moved over 102,000 tons, its best record for the time in any year. Shipments are also large from Ashland and Marquette. The coal strike is, however, having a very serious effect on the ore carrying and other lake trades. All vessels plying to the head of the lakes fuel there, instead of as is usually the case, at Lake Erie ports. They are drawing on stocks at Duluth at the rate of about 1,500 tons daily. But the largest item of consumption at present is by the railways, and about 4,000 tons daily is being hauled away. At first only the roads running to the head of the lakes availed themselves of this source of supply, but now every road running into the North-west from Chicago, the Milwaukee, Northwestern, Kansas City, Burlington, Wisconsin Central, not to mention the Union Pacific and the network of lines toward the south-west controlled by the Great Northern, are all using coal from docks at the head of Lake Superior. At the opening of navigation there were 375,000 tons of bituminous coal on dock at Duluth and Superior, nearly all unsold, while to-day there is scarcely a pound of the 100,000 tons yet remaining that is not sold to either vessel lines or railways. Ten days more of the coal strike will see nearly all lake craft tied up for lack of coal. The Minnesota Steamship Co., hauling a large share of the ore of the Duluth & Iron Range Road, has coal enough to last to June 15th, but the majority are in no such condition.

GRAND HAVEN, MICH.

Many marine engineers will learn with regret of the resignation of Myron Scott, inspector of boilers for the Eighth district, with headquarters here. Mr. Scott was obliged to send his resignation to Washington on account of ill health, and it has been accepted by Secretary Carlisle. Mr. Scott has been connected with the local inspector's office for about eight years, and by his courteous and obliging manner has made friends of all with whom he has come in contact within this district. The local board of steamboat inspectors loses a valuable member.

RESOLUTIONS OF CONDOLENCE.

At a special meeting of the Chicago Vessel Owners' and Masters' Association held May 23, at their office, 252 South Water street, the following preamble and resolutions were unanimously adopted:

WHEREAS, "He who rides on the whirl-wind and directs the storm" has called from our midst one of the noblest and best navigators on the Great Lakes, Capt. John Wilson of the schooner Myrtle, the members of the Vessel Owners' and Masters' Association of Chicago unite with hundreds of their friends in deploring the loss of a genial friend, a brave and honest man, who was taken from us while in the full meridian of his powers and usefulness,

Resolved, That while we humbly bow to the decree of fate and unsearchable ways of the Maker and Ruler of all, yet we cannot forbear to mourn over the sudden demise of our friend, companion and brother, and we hereby tender to his relatives our sincere and heartfelt sympathy in this their hour of trouble,

Resolved, That copy of these resolutions be sent to his relatives, the papers, and they be spread at large upon the records of this association.

A WORK ON MARINE COLLISIONS.

A few weeks ago we noted briefly in these columns that Herbert R. Spencer, Esq., recently appointed to the chair of Admiralty Jurisprudence at the State University of Minnesota, was the author of a forthcoming work on marine collisions. The volume which will consist of about 500 pages treats of the subjects as set forth in the following "table of contents" and in the prescribed order. From advance sheets of a synopsis of the work it is learned that each subject will be concisely arrayed under separate headings accompanied with a complete brief of the laws relating to the caption and a liberal use of foot notes referring to every decision of the federal courts made on the questions involved.

There is no subject which would stand at this time so general an elucidation as the U. S. Admiralty decisions on collision cases and the laws appertaining to same. Such a work handled in the masterly and inclusive manner which we are prepared to see from the pen of Herbert R. Spencer, Esq., of Duluth, Minn., will redound to the already well-known reputation of the author, furnish an epitome on admiralty decisions which has long been eagerly desired and gain the further prestige of being the only American work on this subject yet published.

The "table of contents" spoken of above is as follows. A review of the new work will appear later:

JURISDICTION OF ADMIRALTY.

IN GENERAL.	Public vessels.
Courts having jurisdiction.	Private vessels.
Courts having exclusive jurisdiction.	Lighters.
State courts.	Barges.
Jurisdiction over things.	Bridges, piers and docks.
Jurisdiction over waters.	Foreign vessels.
Navigable waters.	Jurisdiction over what persons.
Navigable rivers.	Over marine torts.
The Great Lakes.	Tort resulting in death.
Inland waters.	Various torts cognizable in admiralty.
Canals.	Personal injuries resulting from collision.
Foreign waters.	
The high seas.	
Jurisdiction over things.	

RULES AND REGULATIONS.

Power of Congress to prescribe regulations.	Rules of the supervising inspectors.
International regulations.	State statutes.
	Usage.

LIGHTS.

Visibility.	Lights by vessel at anchor.
When doubtful.	Anchor watch.
Failure to observe.	Flare-up lights.
Displaying wrong light.	Lights by vessel aground.
Defective lights.	Lights by vessel at wharf, or dock.
Lights displayed by vessels under way.	Lights by overtaking vess'l
Side lights.	Burden of proof.
Lights by vessel towing.	

NAVIGATING IN FOG, MIST OR FALLING SNOW.

Sufficiency of sound signals	Navigating in vicinity of docks and anchorage grounds.
Rate of speed in thick weather.	Sailing vessels navigating in fog.
Excessive speed.	Sound signals by vessels anchored.
Moderate speed.	Substitution of signals.
Rate justified.	Signals by vessels towing and towed.
Stopping and reversing.	
Error in locating approaching vessel.	
Fog signals.	

COLLISIONS BETWEEN SAILING VESSELS.

Steering and sailing rules.	Change of course. Holding course.
Sailing free and close-hauled.	Overtaking.
Both close hauled.	Crossing courses.
Both free.	Vessels disabled.
Meeting end on.	Defective appliances.
	Right of way.

COLLISIONS BETWEEN STEAM VESSELS.

When two steamers meet end on.	Change of course.
Crossing courses.	Sound signals for vessels in sight of each other.
One steamer overtaking another.	Signals to be certain.
Overtaking vessel defined.	Answering signals.
Duties of overtaking vess'l.	Danger signals.
Duties of leading vessel.	Stopping and reversing.
Steamers passing.	In case of doubt.
Duty of vessel passed.	Rate of speed.
Duty of vessel passing.	Right of way.
Damage by suction and displacement wave.	In narrow channels.
Holding course.	Sudden sheer.
	Departure from the rules.

COLLISIONS BETWEEN VESSELS NOT UNDER WAY.

Between vessels leaving and vessels entering slip or dock.	Dragging anchor.
Navigating near docks and piers.	Vessels getting under way.
Between vessels entering and vessels moored at dock.	Vessels at rest, not anchor'd
Duty of vessel moored.	Vessels aground.
Mooring alongside another	Launching.
Mooring in unlawful place.	Obstructing entrance to slip.
Vessels projecting beyond pier or dock.	Vessels moored at river bank.
Leaving vessel unattended.	Breaking from moorings.
Liability of dock owners.	Anchor lights.
Collision with vessel at anchor.	Duty of anchored vessel to move.
Maintaining anchor watch.	Anchoring in navigable channel.
Anchoring in an exposed situation.	Vessels drifting.
	Duty to anchor at distance.
	Presumptions.

COLLISIONS BETWEEN STEAM AND SAIL.

Duty of steamer.	Holding course.
In narrow passages.	Beating out course.
Giving wide berth.	Change of course.
Slackening speed, stopping and reversing.	Exceptions to rules.
	Presumptions.

COLLISIONS BETWEEN TUGS AND TOWS.

Liability of tug.	Presumption of fault.
Relation of tug to tow.	Liability of tow.
When treated as a single vessel.	Joint liability.
Negligent towing.	Promoting dangerous situation.
Excessive length of towline	Right of way.
Obstructing narrow chan'l.	Making up tow.
Shifting tow.	Dangerous tow.
Leaving tow exposed.	Abandonment of tow.
Towing rafts.	Striving for precedence.

RIVER AND HARBOR NAVIGATION.

Inspectors' Rule I. Right of way.	Dangerous rate of speed.
Inspectors' Rule II.	Keeping middle of river.
Inspectors' Rule III. In narrow channels.	Usage.
Inspectors' Rule IV.	Hugging shore.
Inspectors' Rule V. Bend of river.	Harbor navigation.
Inspectors' Rule VI. Navigating in fog.	Local ordinances.
Inspectors' Rule VII. Passing.	Obstructing channels.
	East river.
	Eastern rivers.
	Hell gate.

MISCELLANEOUS COLLISIONS.

Collisions with small boats.	Collision with wreck.
Pilot boats.	Collision with fixed structure.
Fishing boats.	Collision with wharves and docks.
Ferry boats.	Collision with rafts.
Flat boats.	
Sail boats.	
Canal boats.	

NEGLIGENCE IN GENERAL.

Lookouts and their duties.	Station of lookouts.
Insufficient lookouts.	Insufficient manning.
Want of vigilance.	Unskillful officers.
Failure to keep lookout.	Unseaworthiness of vessel.
Presumption of negligence	Negligence of pilot.
Sufficiency of lookouts.	Defective appliances.
Requirements of lookouts.	

DAMAGES.

Rules for determining liability.	Contribution.
Where one is at fault.	Measure of damages.
Where both are at fault.	Demurrage.
Where several are at fault.	In extremis.
Where there is no fault.	Repairs.
Inevitable accident.	Expenses.
Damage to vessel only.	Survey.
Damage to vessel and cargo	Depreciation.
Valuation, earnings.	Division of damages.
Personal effects.	Half damages.
Recoupment.	Liability of charterer.
Set-offs.	Liability of owner.
Interest.	Liability of master.
Proximate and remote cause.	Salvage.
Personal injuries.	Death of relatives.
	Total loss.
	Partial loss.

LIMITATION OF OWNER'S LIABILITY.

Limited liability act.	Payment into court or surrender.
Jurisdiction.	Time within which act may be invoked.
What ships and persons within act.	Value of vessel.
Who may take advantage of it.	When there are several owners.
Scope of act.	Parties to proceeding.
Foreign vessels.	Collusion by owner.
Effect of proceeding under act.	Mode of procedure.
Claims embraced within act.	Prior Liens.
Estimate of owner's interest.	Appraisal.
Practice and proceedure.	Insurance.
	Proof of claim.
	Distribution.

From the foregoing table of contents a general impression may be gathered of the value of such a work, not only to the legal talent of the lakes, but also to masters and owners, underwriters, charterers, merchants and wharfingers throughout the United States. Such being the case, the author of so eminent a work must perforce be widely recognized in the future as an authority on this important branch of marine law.

NOTES.

THE schooner Sweetheart, consort of the Pringle, passed Port Huron on Tuesday and reported that Mary Jones, a cook on that vessel, fell overboard off Sand Beach and was drowned.

CAPT. A. P. Wood, of Duluth, and Andrew Biemel, of Cleveland, are at Ashland in the interest of the Lake Carriers' Association to arrange for a lower rate on the season's trimming. The trimmers have gone to work at the reduction and are now being pald 2½ cents per ton for ore trimming.

THE General Electric Co., Schenectady, N. Y., send to their patrons this week a useful memento in the shape of a chamois-leather pen-wiper mounted or bound on a celluloid back on which is depicted the U. S. S. San Francisco recently equipped with a complete electric lighting plant by the General Electric Co. The "General" is a leading firm in the electric world of manufacture, their marine engines and dynamos are of the most advanced types and for the competent execution of marine work of large proportions they stand unexcelled.

SHIP RESISTANCE.

Under the auspices of the Greenock Philosophical Society, Mr. R. E. Froude, of London, delivered the Watt anniversary lecture, his subject being "Ship Resistance," which was illustrated by diagrams and lime-light views. In the course of his lecture, Mr. Froude said that among the many applications of the invention which we are accustomed to associate with the name of Watt, perhaps one of the most conspicuous is the use of steam for marine propulsion, hence ship resistance suggested itself as an appropriate subject for the lecture. His purpose was to give an outline of the leading principles which enter into the subject, in so far as he himself understood them; those principles which we must in some measure understand and appreciate in order to be able to draw correct conclusions from particular facts of experience, or to predict the effect of any novel feature in a ship or novel characteristic of her form. The most important step to take at the outset is to get rid of the very natural but nevertheless mistaken notion that a ship or a fish or other similar body moving through the water experiences resistance mainly and primarily because it has to force the water out of its way. Until thirty or forty years ago the accepted theory of ship resistance, so far as there was any, was based upon this mistaken notion, the resistance being supposed to be due to the inertia of the water so disturbed. According to the now universally accepted theory, in an imperfect fluid such as water a fish or fish-torpedo would experience resistance solely in virtue of the frictional imperfection of the fluid, and the degree of resistance would be (at least broadly speaking and presumably) proportional to the degree in which that frictional quality was present. In the case of a ship moving at the surface, the presence of the free surface, so far from diminishing the resistance, only introduces a new element of resistance, due to the formation of waves. Considering the modern theory as it applied solely to the case of a fish or fish-torpedo, and dealing thus with submerged bodies, moving at steady speed, what the lecturer represented was, briefly, that fluid resistance is inseparable from fluid friction; that fluid inertia only comes in as a source of resistance in virtue of and, so far as we have yet seen, broadly speaking, in proportion to the effect of fluid friction; and that, in an ideally perfect frictionless fluid there could be no resistance at all, whatever the shape of the body. Then, as to a ship or other body moving at the free and open water space, he first noticed that this wave-making resistance is a distinct and additional source of resistance. The general principle of the action by which a vessel imparts wave motion to the water she moves through, and so experiences resistance, might perhaps be best illustrated by by means of the closely analagous action of imparting swinging motion to a pendulum by disturbing its point of suspension. What he called the direct wave-making resistance was the item of wave-making resistance which it is most important to study, not because it is by any means always the largest item, but because it is the only one which is critically or acutely sensitive to speed of ship, and is for that reason responsible for all the complication which attaches to the question of the best form of ship for given conditions. We may conclude that lowering the level of any element of the displacement of a ship will be most effective to reduce its potency to develop very oblique wave making, yet, at the same time, up to a certain point, will not materially reduce its potency to develop direct wave-making. And herein we seem to find the true explanation of the effect which the V bow with fine water line has been found to possess as compared to the V bow with fuller water line, specially to diminish the oblique wave-making resistance. For it is only just at the bow, and in a minor degree at the stern, that the statical wave of a ship-shape form presents features conducing to the formation of the very oblique waves of the short length crest to crest.

REMARKABLE SALVAGE.

It has been over two years since the last attempt was made to search the cargo of the Pewabic sunk in Lake Huron, at which time Diver Pelkey lost his life; but the search for treasure trove has a great fascination and preparations are now being made to raise the abandoned wreck.

The diver who will join the new expedition on shares lives in Pennsylvania. So confident is he that he can raise the Pewabic that he is willing to perform the work on much better terms than any other man of his profession. This submarine worker has perfected a new style of diving suit, and has experimented on the quiet with it for some time. He is not in the least concerned in regard to the depth of water in which the Pewabic lies, and says the quoted depth will not embarrass his working to good advantage. It is expected that the expedition will be ready to start for Lake Huron about June 20.

The projectors of this new venture assert that the cargo of the Pewabic contained 75 barrels of silver, 365 tons of copper ore, 175 tons of pig iron, 250 rolls of leather, supposed to be buffalo hide, and a great number of trunks, for which there are big rewards offered, ranging from $100 to $5,000 for a single one. Among these trunks is one belonging to an army paymaster, which is supposed to contain a large sum of money. However, perhaps her late master, Capt. Geo. P. McKay, Cleveland, O., would not believe that she carried so valuable a cargo when the Pewabic went down from under his feet nearly thirty years ago.

NEW CLAUSE IN INSURANCE.

Underwriters' general agents in Chicago have made a change in marine insurance which will be of great importance to grain shippers. The rule governing losses by which 5 per cent. of the grain must be damaged before a claim could be made against the underwriters was abrogated for cargoes of over 40,000 bushels. Full indemnity will now be given for 10 per cent. additional on A1 and A1½ boats and for 20 per cent. on A2.

MATTER OF CONSTRUCTION.

Two respectable looking men of middle age were talking quite earnestly and quite audibly in a Cold Spring car the other evening.

"Did you go to see her?" asked one.

"Oh, yes, certainly," replied the other.

"How do you like her?"

"I think she is a perfect beauty," was the rapturous reply. Whereat all the passengers looked that way, and a young woman directly opposite the speaker blushed, and tried to pretend she wasn't listening.

"Yes, I admire her very much," added the man; "I like her style."

"Elegantly built and fitted out, isn't she?"

"Yes, and she's pretty fast, too."

The young woman across the aisle could stand it no longer. She nodded confusedly to the conductor, and got off at the next crossing.

The respectable looking men didn't notice anything, and kept right on with their gossip.

"I wouldn't mind owning her."

"I wouldn't object myself. She'll be a paying investment—that is, if she sails as well as she did to-day. Let's see, what's that her name is?—I've forgotten."

"The Northwest."

And the other passengers smiled.—*Buffalo Express.*

OUR NAVAL VETERANS.

(From Harper's Weekly.)

The headquarters of our naval veterans in New York are unique. They are situated on the second floor of the Essex Market Building, at the corner of Grand and Ludlow streets. "Man-o'-war" style prevails here, and you run against something nautical immediately after crossing the threshold of the anteroom. Here you see a miniature fore-top-sail, with the picture of a ship under full sail, and the motto "Don't give up the ship" painted upon the canvas. A committee room adjoins the anteroom. Here are a library, mess-locker, store-locker, and a model, six feet in length, of a full-rigged steam-frigate, armed with brass guns. Passing through the anteroom, the visitor enters the post-room, which is twenty-eight feet wide and thirty-five feet long.

The floor of the post-room is painted to represent the deck of a ship after it has been well holy-stoned. From the deck rise two stout masts. Life-rails, belaying pins, and running-rigging add to the naturalness of the counterfeit presentment. The east end of the room. or quarter-deck, is rigged like a steamer's bridge. Here the presiding officer of the meetings takes his stand. In front of the bridge is a steering-wheel. Near that is a binnacle, on which is a mariner's compass. Cutlasses, knives, boarding-picks, a spy-glass, speaking-trumpet, guns, pistols, and a real cannon are in evidence. The altar is a capstan. Along the starboard and port sides of the room are painted the stowed hammocks of the crew.

Occupying the entire eastern wall, and as if viewed from the stern of the supposed vessel, is a vivid scene, painted in oil, of Forts Jackson and St. Philip on the Mississippi as they appeared just before Farragut's fleet passed them on the way to the capture of New Orleans in April, 1862. The picture of this memorable occasion was made from an original sketch which was drawn on the spot from the mast-head of the gun-boat Wissahickon.

The Rear-Admiral of the naval veterans, B. S. Osbon, made the original sketch. He was a fleet signal officer in the Gulf blockading squadron under Farragut. At the right-hand side of the picture Porter's mortar-boats are seen sending their shells into Fort Jackson, which is firing at some of Farragut's ninety-day gun-boats over near the left bank of the river, while in the foreground some of the Confederate fleet stationed up the river are trying to cross-fire and cripple some of the Federal boats.

THE YACHTS AND YACHTSMEN OF AMERICA.

The International Yacht Publishing Co., No. 155-157 Broadway, New York City, have just issued Vol. 1, to be completed in two volumes, entitled "The Yachts and Yachtsmen of America," edited by Henry A. Mott, Ph. D., LL.D. It is a great work in every sense of the word. The first volume has been over two years in preparation, at a cost of over $50,000. This is a superb volume of 688 folio pages, in beautiful, clear print and illustrated in the best style of art. The full page photogravures of all the famous yachts are especially of marked excellence. It is a complete history of yachting and yacht clubs, together with biographies of the founders and leading members of yacht clubs, both in the United States and Canada. The editor has gathered his material from every authentic source, and has left little unsaid to give the reader a clear history of the international technic. It is designed for the purpose of a standard work of reference, being a history of yachting and of yacht clubs as well as of the various yachts. The following gives an idea of the scope of Vol. 1: "Evolution of the Yacht," 40 pages; "History of Yachting," 12 pages; "Yachting in the United States," 20 pages; "Cost of Yachting and Yacht Decorations," 4 pages; "Type of Yacht," 14 pages; "Centerboard," 8 pages; "Rig of Yachts," 16 pages; "Speed Records Sailing Yachts," 10 pages; "Trophies," 34 pages; history, record of races, description of yachts and biographical sketches of members in the five leading Canadian yacht clubs, followed by similar information relative to 38 yacht clubs in the United States, 458 pages. The volume contains over 600 photo-etchings of yachts and club houses, nearly 200 half-tone vignettes of yachtsmen and over 40 full page half-tone portraits of commodores, besides 100 full page photogravures of yachts and club houses.

Yachtsmen of all clubs have long desired to have a work for reference, which would not only furnish reliable information relative to the yachts belonging to members of their respective clubs, but more particularly have desired information relative to the yachts and yachtsmen of other clubs. Up to the present time no such information is at their service, and it can only be obtained upon special application to the various yacht clubs distributed over the American continent.

The volume, therefore, is of great value as a book of reference on all yachting subjects, and the publishers have spared no expense to make the book attractive. The second volume will contain a leading chapter relative to the introduction of steam as a motor power and of the various motor powers, whether petroleum, naptha, water jets or propulsive power from time to time introduced. The second chapter will be the history of the America's cup. Following this will come the history of such yacht clubs as do not appear in the first volume. The vessels, cruisers and war ships of the American navy will appear as photogravures, and a description of the same will be given. Numerous photogravures, photo-etchings of yachts, and half-tone portraits will embellish the volume. No yachtsman's library will be complete without these handsome books. A work of this magnitude has never been attempted, and it is therefore intended to make it of a national character, reflecting the genius of this sport in all sections of the world. The plan possesses originality and insures the recording of many facts worthy of a place in history which otherwise would sink into forgetfulness. The portrait gallery and biographical sketches give the work a standing never before attained by any other work.

THERE are many ways, means and methods which manufacturers can use to introduce specialties to the trade they desire to reach. It is a foregone conclusion however that it is necessary to "get out in the woods and holler" so as to attract attention, nor does it matter much in what key the "hollering" is pitched so long as it heralds the merits of the device or manufacture. Not a whit behind the age, therefore, do we find Mr. George Tyzack of Newcastle-on-Tyne, England, who, we presume is the author of a nicely illustrated book of twenty pages, got up in excellent typographical style and sent with his compliments to THE RECORD. The book furnishes a descriptive account of Newcastle-on-Tyne, illustrated. Historically it dates back to the time of the Roman general Agricola, the conqueror of Britain, and comes along in chronological order up to the invention of Tyzack's triple grip stockless anchors. The portrait of Mr. Tyzack is found modestly occupying the port upper corner of the front cover of the book, the back cover illustrating the only reliable "triple grip," self-stowing anchor. Our New York friends, DeGraw, Aymar & Co., are the American agents for Tyzack's patent triple grip stockless anchors, thousands of which are now in use in both sail and steam, and we take it upon ourselves to say that a copy of the book, or any information relating to the patent anchors will be cheerfully furnished by the New York agents.

MARITIME LAW.

INSURANCE CO. OF NORTH AMERICA v. STEAMSHIP ENERGIA AND SCHOONER WILD PIGEON.

U. S. District Court, Southern District of New York.

COLLISION—CARGO DAMAGE RECOVERABLE—GENERAL AVERAGE ASSESSED IN FOREIGN PORT. A cargo owner may recover from the ship general average charges assessed in a foreign port of destination against his cargo as the result of a negligent collision happening in United States waters.

BROWN, District Judge.

The libelant company was insurer of a shipment of oil. In going down New York Bay, the steamer met with a collision, by her own fault, which compelled her to return to New York for repairs. At the time of delivery at Shanghai, and as a condition of delivery, a cash deposit was exacted from the consignees of the ship owners to cover general average and special charges to be stated under an adjustment to be made in London. This was under a practice prevailing at Shanghai. The general average or special charges have been paid or will be retained by the ship owners from the cash deposits made by consignees at Shanghai, upon the ground that they are lawfully collectible, notwithstanding any negligence in respect to collision.

A charge paid for a salvage service, made necessary by a collision, is strictly analogous to the present claim, so far as respects its directness; and the charge of salvage is always allowed as an item of damage against the ship in fault. (The Ackerman, 8 Ben., 496; The Fletcher, 42 Fed. 504; La Champagne, 53 do. 398.) It might as well be claimed that the law of salvage was in such a case the cause of the salvage charge, as the law of average is the cause of the average charge, against the cargo in a case like this. It is not the law, but the facts and the relations which the law recognizes, that are the causes and the grounds of the average charge.

The grounds of the general average charges in this case were the necessary service and expenses rendered to and for the ship and cargo upon their return to this port, as a port of refuge; the charges were made necessary by the collision, and by nothing else; the particular charges were for the cargo alone. If the adjustment of average could have been made here, these charges would not have been allowed against the cargo, because of the ship's fault; (The Ontario, 37 Fed. 220; Snow v. Perkins, 39 do. 335; Ralli v. Troop, 37 do. 890.) but as adjustment is lawful made under a foreign law, which does not recognize any liability in the ship under the exceptions of negligence in the bill of lading, and therefore allows her to collect these charges from the cargo in the first instance, our law, which takes note of the foreign law as a fact, and as one of the circumstances of the voyage on which this collision occurred, must, in order to give complete restitution, allow the cargo owner to recover back the charge which the collision, under the foreign law of average adjustment, has imposed upon the cargo, because that charge was the necessary result of the collision according to the law of the destination upon the voyage on which the ship was engaged. This does not at all reverse the foreign law of adjustment; it simply recognizes that law as a fact, on the payment of average as a necessary result of the collision. Our law, as the law of the *forum*, must govern in the adjustment of damage upon a collision happening here. The Scotland, 105 U. S., 29-30; and hence full restitution must be given according to our law alone.

Decree for the libelant, including the charges named.

New York, April 7, 1894.

UEBERWEG v. LA COMPAGNE GENERALE TRANSATLANTIQUE.

Circuit Court of Appeals, Second Circuit. March 12, 1894.

COLLISION BETWEEN STEAMERS—OVERTAKING VESSEL. Two steamers were going on parallel courses, abreast of each other, and about 250 feet apart, when the faster of the two changed her course one point towards the other, and the two vessels collided about a minute later at an angle of about 15 degrees. There was some evidence that the other vessel also deviated from her course, but this was not clearly proved. Held, that the collision was caused by the negligence of the faster vessel in thus changing her course.

Appeal from the Circuit Court of the United States for the Northern District of New York.

Libel by Julius Ueberweg, master of the steamship Switzerland, against La Compagnie Generale Transatlantique, owner of the steamship La Gascogne, for damages caused by collision between the two vessels. The District Court dismissed the libel, (38 Fed. 853) and this decree was affirmed by the Circuit Court. Libelant appeals. Reversed.

Before Wallace, Lacombe and Shipman, Circuit Judges.

Shipman, Circuit Judge. The district judge, who tried the cause, hesitatingly inclined to the opinion that the weight of the evidence was on the side of the Gascogne. The findings of fact of Judge Benedict were as follows:

"These are cross actions arising out of a collision which occurred on the 21st day of January, 1881, in the harbor of New York, not far below the statue of liberty, between the steamship Switzerland and the steamship La Gascogne, two passenger steamers at the time bound out of the port of New York on a voyage to sea. The Gascogne was the faster vessel, and, having come up with the Switzerland, was passing her, on her port side, at a distance estimated by various witnesses at 150 to 300 feet. The bow of the Gascogne had drawn ahead of the bow of the Switzerland when the vessels came in collision, the Switzerland's bow striking the Gascogne on her starboard quarter at an angle of about 30 degrees. To recover the damages resulting from this collision to the respective vessels, each vessel has brought an action against the other. The collision occurred in broad daylight, on a clear day, with no other vessel to interfere with the navigation of either vessel. It is manifest, therefore, that the collision was caused by negligence, but where the negligence was is not so clear. The contention on the part of the Switzerland is that the Gascogne, instead of keeping her course, as she was bound to do, until she had passed the Switzerland, attempted to cross the Switzerland's bows, under a port helm, when the distance between the vessels was too small to permit her to accomplish such a manoeuver in safety. On the part of the Gascogne the contention is that while she was passing the Switzerland, and holding her course, at a safe distance, the Switzerland, instead of keeping her course, as she was bound to do, suddenly swung over to the eastward and struck the Gascogne upon her starboard quarter.

LAKE AND RAIL RATES.

A report on lake and rail rates was made in New York last Thursday at the meeting of the Trunk Line Association. An advance in east-bound lake and rail rates to the tariff of April 2, 1894, was recommended and adopted with the exception of flour and grain products. On these last rates were fixed as follows: Fifteen cents per 100 pounds from Chicago to New York, 17½ cents from Duluth to New York, and 20 cents from Minneapolis to New York.

AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation: A second bearing of the Sun may be taken at sunset by reversing the bearings to read west instead of east, as, for example, N. E. by E. for a sunrise bearing would read N. W. by W. for a sunset, or E. 30° N. to W. 30° N.

LAKE ERIE AND S. END LAKE MICHIGAN. LAT. 42° N.

Sunrise.	Bearing (degrees).	Bearing (points).
June 4	E. 30° N.	NE. by E. ¼ E.
June 8	E. 32° N.	NE. by E. ⅛ E.

LAKE ONT., S. END HURON AND CENTER LAKE MICHIGAN LAT. 44° N.

Sunrise.	Bearing (degrees).	Bearing (points).
June 4	E. 31° N.	NE. by E. ¼ E.
June 8	E. 33° N.	NE. by E. ⅛ E.

N. END LAKES HURON AND MICH. LAT. 46° N.

Sunrise.	Bearing (degrees).	Bearing (points).
June 4	E. 33° N.	NE. by E ⅛ E.
June 8	E. 34° N.	NE. by E.

LAKE SUPERIOR. LAT. 48° N.

Sunrise.	Bearing (degrees).	Bearing (points).
June 4	E. 34° N.	NE. by E.
June 8	E. 36° N.	NE. ⅞ E.

With a compass correct magnetic, the difference between the observed and true bearing will be the variation for the locality. If there is any deviation on the course the vessel is heading at the time of taking the bearing the result after the variation is applied will be the amount of deviation on that course.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—WISCONSIN.

PORTE DES MORTS (PILOT ISLAND) LIGHT.—Notice is hereby given that on or about June 8, 1894, the fourth-order fixed red light at Porte des Morts (Pilot Island) light-station, in Lake Michigan, at the entrance to Green Bay, Wisconsin, will be changed to a fixed white light varied by a white flash every 15 seconds. The order of the light will not be changed. This notice affects the List of Lights and Fog Signals, Northern Lakes and Rivers, 1893, page 56, No. 1334, and the List of Beacons and Buoys, Northern Lakes and Rivers, 1893, page 84.

By order of the Light-House Board.

JAMES A. GREER,
Rear-Admiral U. S. Navy, Chairman.

Office of the Light-House Board, Washington, D. C., May 24, 1894.

Notice is hereby given that the nun-buoy marking Eleven-Foot Shoal, off Point Peninsula, northern end of Green Bay, Michigan, has been replaced. The first class can-buoy, marking the reef off Racine, Wis., is reported as being out of position on account of the recent gale. The buoy will be reset at an early date and a notice to that effect will be published.

SUEZ CANAL REPORT.

A Parliamentary digest of the traffic through the Suez Canal has just been issued, from which it is learned that the net tonnage for the past year shows a decrease of 52,960 tons as compared with that of 1892, and of 1,039,709 tons as compared with that of 1891. The number of vessels which passed through the canal was 4,207 in 1891, 3,559 in 1892, and 3,341 in 1893, of which 3,217 in 1891, 2,581 in 1892, and 2,405 in 1893 carried the British flag. The percentage of British flags passing through the Suez Canal in 1893 shows a slight decrease as compared with the previous year, the figure being 72 per cent. as against 72½ per cent. in 1892.

Some idea of the extent to which trade through the canal has increased may be formed from the fact that in the years 1881–91 the annual net tonnage ranged from 4,136,779 tons to 8,698,777 tons, and the transit receipts from 51,274,352 francs to 83,422,101 francs, the average of the net tonnage being 6,179,848 tons, and of the transit receipts 63,459,028 francs. In 1893 the net tonnage amounted to 7,659,068 tons, and the transit receipts to 70,667,361 francs. The mean net tonnage per vessel also rose from 1,517 tons in 1881 to nearly 2,292 tons in 1893, being 125 tons per vessel in excess of the previous year's total. In 1870 there were carried through the canal 26,758 passengers; in 1880 the number increased to 98,900, while in 1893 the total was 180,432, against 183,912 in the previous year. Out of 3,341 vessels, no fewer than 3,082 navigated the canal both day and night, whilst the limited remainder did the passage in the day only. The longest passage through the canal was 44 hours 37 minutes, and the shortest, 18 hours 33 minutes. The mean duration of passage for all vessels navigating the canal shows a decrease from 21 hours 16 minutes in 1892 to 20 hours 45 minutes in 1893. In 1892 the percentage of vessels navigating by night was 90 per cent., while in 1893 it rose to 92.2 per cent., the number being 3,082 in 1893 as against 3,236 in 1892.

The percentage of vessels drawing less than 23 feet declined from 73.31 in 1892 to 68.93 in 1893, while vessels drawing more than 23 feet increased from 26.69 in 1892 to 31.07 in 1893. The maximum draught allowed for vessels passing through the canal is 25 feet 7 inches, and the increase in the size of the vessels is shown by the fact that 164 vessels drawing more than 24 feet 7 inches used the canal, as compared with 127 in 1892 and 135 in 1891, representing a percentage of 3.20 in 1891, 3.57 in 1892, and 4.91 in 1893.

WELLAND CANAL DISCRIMINATION.

The representative of the Canadian Pacific, A. C. Raymond, of Detroit, has submitted to the house committee on foreign affairs a protest against the bill introduced by Representative Chickering, of New York, for retaliation in case of discrimination against American interests by the border canals. The law of 1892, authorizing the President to impose tolls on Canadian vessels in the Sault Ste. Marie when American vessels were discriminated against consisted in the collection by Canadian authorities of less tolls on cargoes bound to Montreal for export than to those bound to ports this side of Montreal. To-day there is absolute equality between Canadian and American citizens in the use of the Canadian canal, says Mr. Raymond, who adds that he can conceive of no reason, political or business, for reviving the attack upon the canal rates. Nevertheless, it is proposed to give the President even greater retaliatory power of an indefinite and sweeping character, and to confer upon him a despotic right of relying solely upon his own judgment, instead of legislative decisions, to determine the question whether discrimination exists. Mr. Raymond contends that the bill is opposed to the provisions of the treaty of 1871 providing for reciprocity and would prove a boomerang to American interests by diverting to Canadian ports and transportation companies wholly within Canadian territory the traffic now conducted through the United States under bond.

GROUND TACKLE OUTFITS.

We announced a couple of weeks ago the sale of seven Providence capstans, made by the American Ship Windlass Co., of Providence, R. I., for vessels building in Liverpool. This week this company have received a cable order for one No. E bar capstan and four No. C bar capstans for a ship building at Glasgow, Scotland, and a further order for two No. B crank capstans and two No. C crank capstans. Last week they shipped four of their capstans to Curacao, W. I. It seems to be an established fact that the Providence capstans are standard capstans of the world. Home orders have also just been received to furnish a Providence windlass for the schooner Lavolta, at Ellsworth, and also a windlass for the schooner John R. Halladay, at Portland, Me.; also for two large windlasses for the two schooners building by H. M. Bean at Camden, Me., with the entire outfits for same.

THE MARINE RECORD

ESTABLISHED 1878.

PUBLISHED EVERY THURSDAY, AT 144 SUPERIOR ST., (LEADER BUILDING), CLEVELAND, O.

IRVING B. SMITH, }
CAPT. JOHN SWAINSON, } . . . PROPRIETORS

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THOMAS WILLIAMS, Associate Editor.

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CLEVELAND, O., MAY 31, 1894.

THE name of the U. S. S. Kearsage is to be perpetuated in the steel freight steamer launched to-day from the yards of the Chicago Ship Building Co. Mrs. Brown, wife of the man who is to take charge of her, will have the honor of conferring the historical name on the new competitor for lake favors and freights, and we are constrained to say that she, the ship, not the lady, is destined to be well commanded.

THREE launches of general tonnage is the past week's record in lake shipbuilding. The Pleasure, a large ferry boat for Detroit River, the Wolverine State, a general freight and lumber carrying steamer, built at Gibraltar, and the large steel steamer Kearsage, to be launched this afternoon from the yards of the Chicago Ship Building Co., shows that lake ship yards are still finding something to do.

REQUESTS, petitions, acts of Congress minus the appropriation to carry out the work, and almost all other means have failed to establish a light of any description at Grand Marais, Mich., on the south shore of Lake Superior. With one of the finest harbors on that shore of the lake, an entrance 500 feet wide and a depth of fifteen feet, it seems incredulous that no light has been established by the Light-House Board at that point. The commercial development of a port ought not to be detained through the laxity of government officials in making proper recommendations, and Grand Marias has long been entitled to a guiding light.

RIVALRY between the Atlantic "greyhounds," Paris and Majestic, gave their respective passengers a close call last week. It is reported that the former vessel sheered across the bows of the Majestic only a ship's length ahead, and if the Majestic had not promptly stopped her engines a collision would have been inevitable. The instructions which the officers of Atlantic lines receive from their owners do not permit of any unnecessary risks being run, and seaman-like ability alone should have prevented two large steamers from getting in such close proximity while in open waters. It is to be hoped that no further trifling with passengers' lives will be allowed in the reckless attempts made to record the best passage.

THE impression has got abroad, and been more markedly commented upon since the recent blow on Lake Michigan, when so many schooners and lives were lost that the lake marine is unaware of the use of oil to smooth broken water. At the port of Cleveland an industry for providing oil bags to vessels was carried on for years and has years ago gone out of existence. Lake seamen are pretty thoroughly aware of the efficacy of oil in smoothing troubled waters, though, unlike oversea voyagers, they are averse to loading their vessels down with a special equipment that may be carried year after year without any necessity arising for its use. Of course, even in the smallest craft, if it were known that the present or any trip would be their last, another vessel might be towed astern for the crew to escape by when their own craft was no longer seaworthy. Furthermore, it is possible to consume all earnings in purchasing old and new appliances and inventions to be used on board a vessel only under special circumstances and but few owners, masters or seamen would care about carrying around and attending to a floating life saving station. Oil and the means of distributing same to the best advantage has long been known and used on the lakes, both in the passenger and freight service, though it must be said that little attention is now paid to this much vaunted means of wave quelling.

THE FUELING QUESTION.

The best hopes are now entertained relative to the finale of the coal mining difficulties, and it is believed by reliable authorities on the subject that the beginning of the end has set in.

The miners played their smallest card in taking the law, or lawlessness, into their own hands last week, and consequently they have lost the popular sympathy in their project to insure higher returns for their labor.

At the first approach of trouble among the miners there was a disposition to pooh-pooh at the outlook and assurances were plenty that no lack of fuel would be found to carry on the commerce of the country; all this has changed, however, and now both sides to the controversy, as well as the general public, are only too willing to learn that an amicable arrangement had been made whereby the former coal supply might be found at hand.

Many industries have been obliged to shut down owing to a lack of coal, and lake steamers are now beginning to experience difficulty in obtaining their fuel even at increased prices, an expense which they are actually unable to meet owing to the low rate of freight offered for transportation. Up to the present, West Virginia coal and the large stock piles at the head of Lake Superior, with fairly good supplies at intermediate points, have kept the propeller wheels churning, but the railroads have drawn so heavily on all fuel in sight that a famine is now imminent, and even with an early resumption of mining the situation will become more cramped, as weeks will probably elapse before a free and full delivery of coal would again set in. Coal companies, fueling agents and stock-pile owners have been more than liberal in their dealings with vessel owners in not rushing up the price of fuel at the early approach of scarce times, but, in the future, enhanced charges must rule, for the simple reason that fuel can not be procured from any source at former rates.

The outlook is therefore more critical for the future than at present. Hard coal does not solve the problem, even where it can be burned, for the item of expense steps in as a prohibitory factor, owing to the low rates of freight, in lake transportation. The alternative then presents itself of tying up vessels at the moment that the cost of fuel equals the earnings of a boat or boats, and if this time is not already at hand the day is not far distant when a temporary cessation of general traffic must ensue. To this feature of the outlook are many vessel owners tying their hopes of a raise in freights and a corresponding margin of profits when coal begins to move more freely. At the same time it would be well to bear in mind that even a small raise in freights is difficult to encompass, while on the other hand a descent is easy, and whether it is equitable or otherwise is not considered.

CRAGGS—FISH—NORWAY.

The steamer Craggs, hailing from Bergen, Norway, arrived at Chicago on Sunday night last with salted fish, that is, according to the bill of entry at the Chicago Custom House.

THE RECORD last week had advices of the Atlantic wonder of 316 tons paddling across "the pond" bound from Norway to Chicago, yet, until her voyage had been completed, little could be said in these columns relative to the success or failure of this unique enterprise.

It is remarkable, however, that the first merchant vessel to touch at Milwaukee, Wis., from the ocean should have sailed or steamed in there almost unheralded, cooly refusing a tow line, and docking at the berth assigned to her with the usual promptitude of a regular trader at that port, discharging six hundred of her eight thousand barrels of salted herrings and clearing again in due course for her port of destination—Chicago, where she arrived all well after a passage of thirty-five days from her port of departure, five thousand miles distant, twenty-two days of her time was taken up in reaching the coast, and the remainder of the time, or thirteen days, in threading the Gulf of St. Lawrence and the lake waterways.

The Craggs, with a crew of twelve hands, fairly demonstrates future certainties in commercial adventures by steam. Formerly we were satisfied with "wind-jammers" crossing "the pond;" at this age steam heralds the advent of a new era and the Norsemen are apparently destined to usher it in, as they were the pioneer discoverers of the continent.

From a comparative or commercial standpoint rather than a financial one, is the recent arrival at the extreme of navigation on Lake Michigan to be viewed, for it is fair to presume, in the absence of accurate figures in detail, that the venture may be pronounced a paying one, otherwise the Norwegians interested would not have duplicated their byegone experiences in again chartering a small steamer for the voyage, although no doubt pride of patriotism was asserted in this as well as in the preceding venture. The fact remains, however, that merchandise can be imported direct, free of handling and trans-shipping charges, from Norway to Chicago, Ill., via. Milwaukee, Wis.

A YOUNG girl from Marine City, Mich., claims to be gifted with second sight, a sort of physicism which enables her to locate the position or locality of drowned persons. At Chatham, Ont., she recently located the body of a drowned man and received a pecuniary compensation of $50 as a reward for her inherent talent. The girl is assisted or maintains that her mental faculties are accelerated by holding a small stone over her eyes and alternately gazing at the photographs of the drowned persons, she then concentrates her thoughts on the sunken bodies and indicates their location. Her record shows that she has located seven out of nine drowned persons, but up to the present she has been unable to locate the four volunteer life savers who were lost in trying to rescue the crew of the schooner William Shupe, wrecked last week near Port Huron. The submarine diver who placed his services at the disposal of the girl's faculties has given up the job in unbelieving disgust and another man has taken his place. How the sequal will result can not be anticipated, but the majority of vessel men are inclined to believe that this physical and spiritual connection is all fudge.

LAKE FREIGHTS.

Ore tonnage from the head of Lake Superior is still in fair demand at 80 cents. A strong effort was made this week to improve the Marquette rate, but no advance was secured and the Marquette and Escanaba rates are still at 65 and 50 cents, respectively. Buffalo coal rates to Chicago are the same as last week. Sheboygan, Milwaukee and Kenosha, 40 cents; Saginaw, 35 cents; Toledo, 25 cents, and Duluth 15 cents—3 cents on wheat and 2¾ cents on corn to New York. Chicago grain rates are firm again at 1⅜ cents on corn. Kingston light chartering at 2½ cents on corn. Oswego coal rates: Chicago, 75 cents; Milwaukee, 70 cents; Toledo and Duluth, 50 cents. Duluth 2¼ cents on wheat to Buffalo with a report that 2½ cents was offered by one broker. Quoted rates on lumber from Bay City and Saginaw are: Bay City to Tonawanda, $1.50; to Ohio ports, $1.25; Saginaw to Ohio ports, $1.37½; to Buffalo or Tonawanda, $1.62½, with a firmer feeling than last week owing to a difficulty in securing fuel and tde raise in price. Chicago shippers are freely offered 3 cents on corn, Buffalo to New York, including Buffalo charges of ⅛ of a cent for transferring the grain from lake vessels to canal boats. This offer is made by the elevator association to down the floating elevators.

INLAND LLOYDS SUPPLEMENT.

Capt. McLeod, manager of Inland Lloyds, has issued the June supplement to the vessel register in which ten steamers are classed, sixteen schooners and seven barges. There are no new vessels reported and B1½ is the lowest rating given to sail craft, all of the steamers are on the first letter.

A synopsis of the supplement is as follows: The steamer Louisiana has been raised from A1½ to A1*. The valuation of the steamer Columbia has been increased $1,000; and that of the John Craig $10,000; the Denver and George H. Dyer $5,000; the Ohio, $2,000; schooners F. W. Gifford $3,000, John Schuette $1,000 and the rating from A2½ to A2, General Franz Sigel $2,000 and the rating from B1 plus to B1, Uranus $2,000 and the rating from A2½ to A2, Little Wissahickon $500 and the rating from B1½ to B1. Valuations and ratings have been assigned the steamers Colonial, Fred Kelley and Saginaw Valley and the schooners C. H. Burton, W. S. Crosthwaite, John M. Hutchinson,. Itasca, C. A. King, Selkirk, Kate Winslow, Richard Winslow, L. W. Drake, Galatea, Ogarita and Unadilla. The G. W. Johnson (formerly the D. W. Powers), Mystic, L. W. Perry, Smith & Post, and H. C. Winslow have been newly entered with ratings and valuations given. Notice is taken of the thorough rebuild given the Galatea which entitles her to an A1½ rating and an $18,000 valuation.

CANADIAN SAULT CANAL.

It is now expected that the Canadian ship canal at Sault Ste. Marie will be completed in July. Work on this enterprise has extended over a period of five years, and in completing it this summer the contractors are a year in advance of the time originally set, and earn a bonus of about $90,000 from the Dominion government. The completion of the work will have an immediate bearing on lake transportation by giving a 20 foot channel through the "Soo" in place of one of from 14 to 16 feet, according to the stage of the water in the American canal now in use; Hay Lake Channel which the American government is now deepening will also be completed this year.

The new Canadian ship canal is about one mile long and the lock is 900 feet in length by 60 in breadth. The channel is 20 feet at ordinary stage of water. Two of the largest lake vessels can be locked through together. The lock in the canal now in use is 515 feet in length, with 60 foot gates and from 14 to 17 feet ot water. The new American "Soo" canal will be completed in 1896.

LAUNCHES OF THE WEEK.

THE "WOLVERINE STATE."

A fine single decked steambarge was successfully launched on Tuesday afternoon from the yard of R. W. Linn at Gibraltar. The steamer has been constructed especially for the lumber trade, and is designed to carry about 900.000 feet on a draft of twelve and one-half to thirteen feet of water. The dimensions of the boat are 190 feet keel, 204 feet over all and 12 feet hold. She will be fitted with a Hodge's fore and aft compound engine, the cylinder being 20 and 40 inches diameter, with a stroke of 36 inches. The boiler is of the firebox type, 10½x15 feet, and tested to 125 pounds. The condenser is independent. The boat will have sufficient power to tow or three consorts. She is owned by the Wolverine Barge Co. of Detroit, and is to be named the Wolverine State.

THE "PLEASURE."

The Detroit, Windsor and Bell Isle Ferry Co.'s new boat, Pleasure, was launched at Wheeler & Co.'s shipyard, at noon Tuesday. The finishing work on her will be completed this week, and the company will take her to Detroit early in June.

The steamer is 132 feet over all, and 51 feet beam, over guards. She will carry passengers on three decks and has accommodations for 3,000 people. The engines are compound, 24 34x32 stroke, and steam is furnished by two boilers 9½x12½ feet, with a working pressure of 125 pounds. The propeller wheel is of a new pattern, having a hub in which are inserted steel blades, allowing of a much lighter wheel for the diameter than with the old style wheel. The vessel is expected to develop an average speed of sixteen to seventeen miles per hour.

The interior finish is of polished birch, the main cabin being well supplied with plate glass windows. The ladies' cabin is a beauty, the woodwork being in Moorish design, with handsomely decorated ceiling. An electric light plant has been installed and will furnish abundance of light throughout the vessel.

THE "KEARSAGE."

There is also to be launched at 3 p. m. to-day the large freight steamer Kearsage built by the Chicago Ship Building Co. The discipline of the yard and the well known skill of Manager Babcock is a sufficient guarantee that the launch will be a successful one in every particular, and on time.

THE PASSING SIGNAL IN FOG.

In a letter to the Detroit *Free Press*, Capt. Thomas Hackett, master of the steamer Volunteer, gives his opinion of using passing signals in fog as follows:

"I noticed in your marine columns some time ago a statement from the captain of the steam barge Hibbard of a collision he had on Saginaw Bay, in which he laid the blame entirely to the new government rule which strictly forbids passing boats in a fog or snowstorm from blowing any passing signals until they can distinctly see each other. I also noticed an article from Supervising Inspector Westcott, stating that the present board of supervising inspectors were not responsible for the law, but that it was made in 1885. Now, if such was the case the inspectors had sense enough to bury it at once. I do not think that it was ever printed or that any steamboat master was ever notified of the fact, at least I never heard of it nor do I ever remember of hearing any shipmaster speak of it, until I received the notice from the inspector's office with my papers in April, 1894.

I think it is the most absurd and dangerous law that was ever enforced by any board of inspectors on the marine fraternity, and the sooner it is repealed the better it will be for life and property. I will venture to say that nineteen out of every twenty boats that pass each other in thick weather do so by the passing signals. With the present law in force there is no alternative for boats but to stop until the weather clears up, and in doing so your boats lose steerageway and become unmanageable, and it does not matter how much sea there may be on, you must stop your boat and endanger life and property because the law says so. I am surprised that experienced steamboat owners and insurance men have not protested against it before this. I am at a loss to know where the damage to life and property will end when times improve and all the boats on the lakes are running, if we are compelled to stick to that rule.

There is another rule in force which I consider nearly as bad, and I think nearly all steamboat captains on the lakes will agree with me. That is, when boats running light or without tows are passing each other in a fog, of one using one blast of the steam whistle for a fog and passing signal. The law says one distinct blast for a passing signal and one short toot for a fog signal. It is very hard at times to determine one from the other, as what some men call a distinct blast others would call a short blast.

My judgment is that one distinct blast for a passing signal is all right, but that the fog signal might be changed to one distinct blast, and either one or two short toots immediately after, and then there could be no possible chance for getting them mixed. When a tow is passing in thick weather and we hear three distinct blasts, we know at once what it means, and act accordingly, but there is abundant room for mistakes in sounding the one blast for a passing and fog signal, and I for one that has command of a large propeller, would very much like to see the law changed.

I tow rafts with 900 feet of lines between the boat and raft. We will go for hours at a time in thick weather without seeing the raft and very often we cannot see more than 200 feet of the tow lines from the stern of the boat. We will pass large fleets of boats in thick weather, or, rather, they will pass us going both ways, as our average speed is only two miles an hour, and we will not see anything of the passing boats, but in such cases I always guide the boats clear of us and the rafts by the passing signals. In all my experience of twenty-six years of raft-towing, I have never had any boat or raft run into in thick weather on the lakes, and I attribute my success largely to the proper use of passing signals. The law now positively forbids using the passing signals in daytime until we can distinctly see the passing boats or their signal lights at night. So I consider the many tows that pass each other on the lakes in thick weather in danger of collision at any time while the present law is in force, and I think the most of captains on the lakes will agree with me."

THOMAS HACKETT.

STAGE OF WATER AT ST. MARY'S FALLS CANAL.

DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

Depth of water at the St. Mary's Falls Canal for the week ending May 31, 1894:

May	24	8 a. m.,	14	feet	10	inches.	8 p. m.,	15	feet	0	inches.
"	25	"	14	"	11	"	"	15	"	0	"
"	26	"	15	"	0	"	"	15	"	2	"
"	27	"	15	"	1	"	"	15	"	2	"
"	28	"	15	"	0	"	"	15	"	0	"
"	29	"	15	"	0	"	"	15	"	2	"
"	30	"	15	"	0	"	"	15	"	0	"
"	31	"	15	"	1	"	"				

VISIBLE GRAIN SUPPLY.

The stocks of grain in Chicago elevators last Saturday evening were 19,268,000 bushels of wheat, 3,438,000 bushels of corn, 494.000 bushels of oats, and 150,000 bushels of rye. Total, 23,350,000 bushels of all kinds of grain, against 22,625,000 bushels a year ago. For the same date the secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 61,329,000 bushels of wheat, 7,647,000 bushels of corn, 2,847,000 bushels of oats, 299,000 bushels of rye, and 102,000 bushels of barley. These figures are smaller than the corresponding ones a week ago by 715,000 in wheat and 626,000 in corn. The visible supply of wheat for the corresponding week a year ago decreased 1,333,000 bushels.

INSTRUCTIONS FOR NAVIGATING NIAGARA CHANNEL.

Major Ruffner, Corps of Engineers U. S. Army, issues the following suggestions to masters navigating the Niagara channel:

"In the hope that I may contribute to the lessening of accidents arising from vessels striking on the Horse Shoe Reef at the head of the Niagara River, I am led to make some suggestions to navigators. Vessels going down the river after passing the "Dummy Light House," at the head, keep the first black buoy on their starboard hand, and then come on to the ranges. As they go down they find the new black buoy on their starboard, also, and as this buoy is important I have arranged to watch it while we are at work on the shoal, and shall keep this buoy in its proper spot. There is good water between the ranges and this buoy, and close up to this buoy. This is the channel. Vessels drifting to the west are liable to strike the ridge left by the dredge. The Jenness struck this, and probably also the Santa Maria. They are influenced by the cross-current at this point, which takes them westwardly, and which must be provided against by both the towing vessel and those towed. It may take the dredge two months to finish clearing the shoal she is on, and during that time there will always be a ridge where she works, and vessels drifting to the west are liable to hit it. After vessels are abreast the red can buoy they do not continue on the ranges, but head for the east, or the west of the inlet pier. We hope to put a dredge on the obstruction struck by the Newaygo, before long, but it can not be done yet."

LIFE SAVERS THERE WHEN REQUIRED.

ALPENA, MICH., May 29, 1894.

To the Editor of The Marine Record:

Enclosed please find an editorial from the *Echo* which I believe fairly voices the sentiment of the marine community in this portion of the country, and further, let me add my personal evidence and witness to our life savers being all there when required, and at every stage of the game where skill, bravery and hardihood is a question of the moment. SUBSCRIBER.

"The Chicago and Milwaukee papers are sitting down on the life saving service in very strong terms and are advocating a reorganization of the service. If they would make their subjects local instead of general there might be cause for a reorganization. But looking at the service from Alpena we see no object in such a move. The crews along the lakes and in this district particularly, need no reorganization. Reorganization is not needed in Chicago or Milwaukee either. What is wanted is brave men in the service—men—who dare risk their lives to rescue life or property—we have them in the service in Michigan and two crews of them not far from Alpena. The life saving service as conducted in this district is a poor place for a faint heart or a white collar. Chicago and Milwaukee life savers evidently don't know what active service means. In Milwaukee they launched their life boat for the first time in months and it leaked—then they quit. If the department will equip those stations with hardy men instead of grandstand players, whose chief object is to parade with the uniform and draw pay, they need have no reorganization. Let the papers call for life savers and remove the mashers, then lives will be saved instead of hearts broken."

TYPES OF TRAVEL IN THE DOMINION OF NEPTUNE.

Neptune is not wanting in his tutelary charge, and for the benefit of those who would become acquainted with him without entering his dominions, we here furnish a short biography of his Majesty, leaving his character to be appreciated by the detail of our types of travel.

Neptune is the chief of the marine deities and son of Saturn, the most ancient of all the gods. Titan the elder brother of Saturn resigned his birth-right to him on condition that he should destroy all his male issue, that the empire of the world might in time fall to his posterity. This condition Saturn accepted, and Neptune would have suffered the fate of his father's devouring jaws, for he became cannibal in order to fulfil his contract, had not his mother, Orps, secretly intrusted him to the fostering care of the shepherds.

His father was afterwards suspected of not fulfilling his engagement, and was in consequence deposed. Jupiter and Pluto, brothers of Neptune, also escaped, by some means; and the inference is fair that Saturn was rightly deposed, for his children, and not Titans, eventually inherited the empire of the world; in the division of which, the sea was allotted to Neptune, but he joined with Apollo in a conspiracy against his brother Jupiter, who made him to serve Laomedon in building the walls of Troy, but failing to obtain any reward for his service, he sent a sea-monster on the coasts, which ravaged the country. He afterwards fell in love with Amphitrite,—whom he had for a long while before disdained—and by the assistance of a dolphin, he flattered her into marrying him. His gratitude to the dolphin for such kindness was expressed by placing him among the stars, and he became a constellation.

Neptune was called Poseidon by the Greeks, and Consus by the Romans, who erected an altar to him in the circus, which was the origin of the Circeusian games or horse races, instituted in his honor.

Neptune is governor of the sea, and father of all the rivers and fountains. He rides in a shell car drawn by sea-horses preceded by his children—which are called Tritons and sea-nymphs.

Owing to the manner in which he was preserved from death while a child, he has ever since manifested the fondest affection for the children of the sea, and rarely or never lets an occasion pass when they first cross the line of his dominions that he does not pay them marked attention. The following is taken from an old private log book:

Oct. 28, 185-.—The hope of yesterday is the history of to-day. This is the S. E. Trade wind, the steady fresh breeze we have been longing for, and on which we may depend for a week or two, probably all the way to Rio. It seems to light up every countenance with the smiles of cheerfulness. We are flying onward seven or eight knots an hour in the direction which we most desire to go—and the excitement amongst the crew concerning Neptune's expected visit on the morrow is becoming intense.

Oct. 29—Truly delightful is the weather of to-day. The N. E. Trade-winds are fresh and bracing. By meridian observation, we are some forty miles north of the equator, and shall cross the line this afternoon.

At eight o'clock last night our ship was hailed, apparently at some distance ahead.

"Ship ahoy! what ship is that?"

The officer of the deck, with his trumpet, answered:—"The United States ship——"

"Who commands that ship?"

"Capt. Wallace Williams."

"Where are you bound?"

"On a cruise."

Whereupon the voice rejoined, "I am Neptune, his oceanic majesty, on a moonlight excursion in my car of state. Welcome, sir welcome to my dominions! As you have many of my children on board, I shall be happy to visit you at the hour of crossing the line to-morrow."

"Shall be pleased to see you, sir: good night."

"Good night exclaimed old Nep, as though he were a mile in the distance.

According to the time-honored custom, the veteran tars of the ship obtained permission from the captain, to prepare an entertainment on board for old father Neptune, when the ship crossed the equator. The programme of the fete was submitted by them to the first lieutenant and approved by him. From which it appeared, however, that they were inclined to disregard the customed sanctity of the quarter-deck, so far as to name some of the commissioned officers; through the names of these the first lieutenant ran his pencil, telling them that they must confine their license and liberties to those who occupy that part of the ship forward of the mainmast. For a week or two they had been busily employed, when at leisure from the duties of the ship, in the preparation of horses and other imposing fixtures for the occasion. And as before said, the affair was opened last night by one of the boatswain's mates,

who personated Neptune, and who on this occasion went out to the end of the jib-boom, and throwing his voice through an immense trumpet beyond the sail, seemed to be at least a mile in the distance. This hail very naturally induced all the verdant ones, his children, to rush to the forecastle; and when congregated there thick as they could stand, they were at a moment most unexpected, literally drenched with a flood of water poured down from the foretop by Neptune's confederates.

The visit of his oceanic majesty, with his wife, Amphitrite, is to take place this afternoon. He is to be attended by his clerk, surgeon and barber, with a numerous corps of assistants, and expected to appear in his imperial car drawn by six horses, with driver and footman, and for the preservation of order, ten constables, one of whom is demoninated high constable, and a numerous engine company; and last of all, is to follow his favorite bear, Ursa Major, of the starry heavens. Preparations indicating something extraordinary have produced a great sensation in the minds of all those who have never crossed the line, and who are in fearful expectation of having something done with them which may not be entirely agreeable.

Six bells!—3 o'clock P. M. The curtain, which has until now been suspended from the break on the port side of the forecastle gracefully rises, and the imperial cortege issue forth to the tune of "life on the ocean wave," played by the drummer and fifer of the marines, who lead the van. There was Neptune and his Queen Amphitrite with their son seated an the car of state, drawn by six horses; and their train, as signified in the programme, was truly imposing.

The captain and officers had assembled on the poop-deck to witness the entertainment, and right well did we enjoy it. All of Neptune's suite were in uniform—that is, they were dressed in sackcloth and old canvas, their garments stained with various colored paints, fringed with oakum. Immense wigs with auburn locks of hemp dangling over their shoulders and down their backs; most of them with cocked hats made of cast off trousers, and their faces and bare legs highly colored with ochre. Neptune was attired as became the person of his majesty, with a crown. His queen had on a neatly fitting skirt after the fashion of the time, though not of the finest texture, and her whitened shoulders and bust appointments, over which hung in ample profusion auburn ringlets of hemp, stayed here and there with bright tin combs, was by no means an imperfect imitation of many of the fairer sex, and the maternal care with which she watched all the movements of her little son, who bashfully clung to her dress, gave her the air of a dutiful matron.

Neptune's car was a large wash-tub, placed on the wheels of a gun-carriage, over which was bent a calache, composed of the hoops of old casks, covered with a sheet of red bunting. Therein stood Neptune, bearing aloft his trident with his left hand, which resembled the wooden pitchfork of the farmer, and holding an immense speaking trumpet in his right. Behind him sat his queen, gazing about through a monstrous quizzing glass, with her son nestling at her side. Driving to the centre of the quarter-deck, Neptune gave the order to "Halt!" through his thundering trumpet, and then severally rebuked his attendants in livery, for not coming forward to aid their queen in alighting from the car. Stepping forward toward the officers, Neptune raised his trident, gracefully touched his crown, and turning his glaring eyes upon the captain, exclaimed—

"How fare you, Capt. Williams?"

"Quite well, I thank you," replied the captain.

"I have come on board, sir, to welcome you to my dominions."

"Glad to see you, sir," said the captain.

"And I understand, sir, that you have a number of my children on board here, on whom I have never yet conferred the freedom of the seas. I have therefore brought all my imperial household along to confer on the youngers all the honors. This, sir, is Amphitrite, my wife, the empress of the ocean; and this, sir, is her son, who was born in a fresh nor'-wester. Here, sir, is my surgeon, with his dispensary suspended in front. Step along, doctor, and let the captain take a look at your phials, your pills and things. Here is my barber from Paris—something of a dandy to be sure, but a good barber. He can shave any man, sir, to an allspice. His razors (rusty iron hoops, two feet long) are rather small for his use, but they are unusually bright and in excellent order. And this, sir, is bruin (a man on all fours, covered like a bear), a pet of my queen's—a sort of a lady's lap-dog, sir. All these other gentlemen in the livery of the seas are good men and true, sir; and we have come, sir, as I said before, to initiate my children, whom I have never before seen, into the equatorial mysteries, and with your permission we will now proceed to do it."

"You may proceed," said the captain, "and I trust that your children may prove worthy of their sire."

Bowing most gracefully, Neptune re-entered the car with his wife and son, and resumed his march round the capstan to the starboard side, where, in the gangway forward of the main hatch, there had been erected a high barber's chair, directly back of which, and between the guns, was suspended a large tarpaulin full of water. Around this the savans assembled, Neptune taking his seat a short distance aft, with his speaking trumpet in hand. His children, those who had never before crossed the line, had been ordered below to the berth-deck at the commencement of the ceremonies. They were now brought up, one at a time, by the constables, and "put through" in the most approved style. Some of them came up willingly, others with much reluctance. The subject was seated on the chair or bench, some six feet from the deck, where the barber, standing on a platform before him, thrust a large whitewash brush into a bucket of soapsuds, and lathered his head and face with great liberality; then, drawing from a canvass bag his canvass bag his case of extensive razors, went through all the movements of a sure-enough barber. Meanwhile old Neptune was thundering forth injunctions to the subject of this barbarous treatment, such as "never eat brown bread when you can get white—never man the lee-rigging when you can reach the weather—never fall in love with the maid when you can fall in love with her mistress," etc., etc., and, at a most unexpected moment, the subject found himself upset backward into the overflowing tarpaulin, kept full by Neptune's firemen at the pumps. Here he had to struggle with Bruin, who remained there to duck and scrub him, until the poor subject leaped out half drowned under an immense shower produced by the firemen, who directed the pipe attached to the hose of the engine. Conducted up from the berth-deck, one at a time, the candidate, as in other mysterious initiations, knew not how he was to fare. Neptune having finished his duties to his children, again formed his procession and marched back around the capstan; stopping in front of the officers, still assembled on the port side of the poop, he arose in his car, and, thanking the captain for his courtesy, said he had given passports to all his children. "And, sir," said he, "since we have done our duty in this respect, we trust, sir, you will not let us go —*dri—dri*—DRIVE on, coachman! God, how I stammer!"

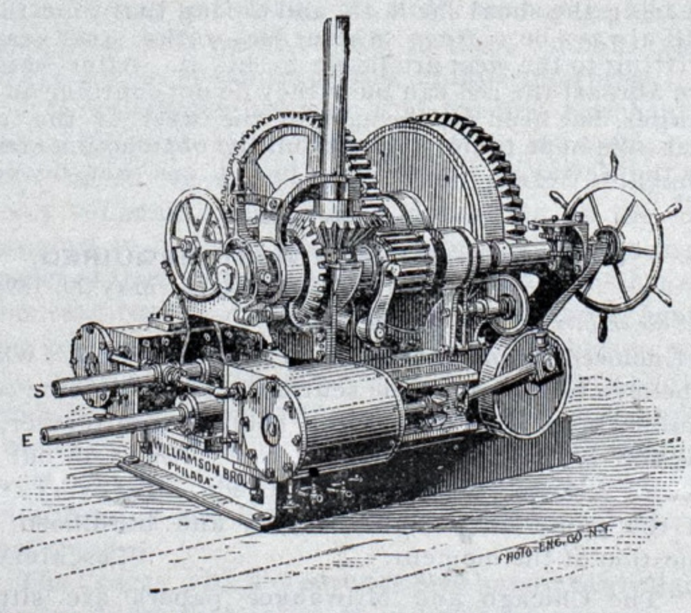
They went forward. gave three cheers, and, at the third, all threw overboard all their toggery. After they had washed and dressed, the captain ordered a splice of the main brace.

STEAM STEERING GEAR.

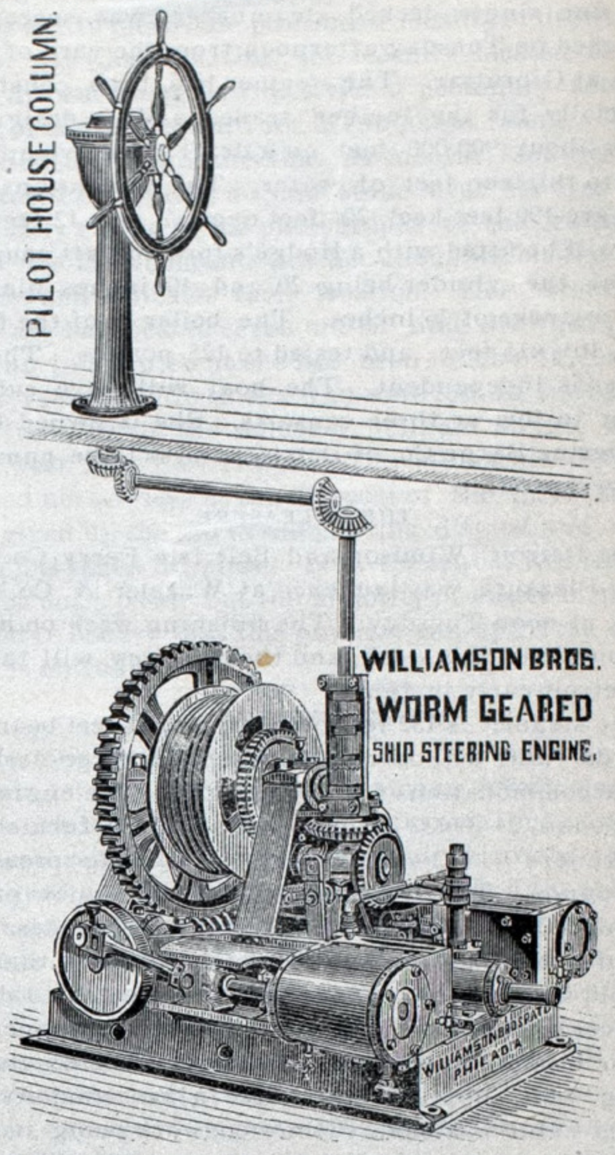
(ILLUSTRATED.)

The best known makers of steam steering engines in the United States are the firm of Williamson Bros., Philadelphia, Pa. They have supplied all of the new naval vessels with their various types of engines and justly take rank as A1 manufacturers of their specialties among the builders and owners of the mercantile fleet engaged in freight and passenger service on the lakes and ocean.

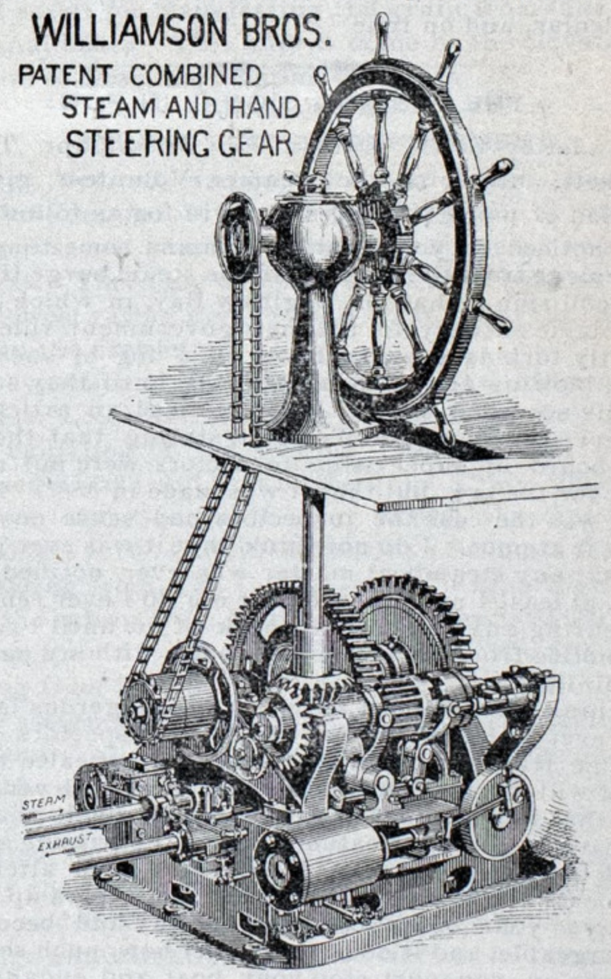
The firm of Williamson Bros. was established in 1866, though it is more especially during the past eleven years that their reputation and record as makers of high classed steam steering gear has been made, yet still no effort is being spared in endeavors to keep well ahead of all possible improvements in the construction and efficiency of their splendid gear, the best possible evidence of which may be found in the statement that among the customers and patrons of the firm may be found companies who have purchased upwards of fifty hoisting and steam steering engines, and still continue to send in their orders for the reliable and durable specialty, and much of the success of the firm may no doubt be attributed to the fact that every engine is tried with steam and thoroughly tested before leaving the works.



Cut 1 shows the patent automatic combined hand and steam steering mechanism, a worm geared engine designed for and now in general use on the new cruisers of the United States navy. The engine drum connects through chains to the ordinary quadrant and is so constructed that it can be attached and detached from the worm wheel by means of a clutch operated by the hand wheel and screw at the end of the drum shaft. The automatic attachment is fitted on the engine and has stops for steam movement, so that the engine can not run farther than the hard over point, which prevents pulling against the rudder stops. The upright shaft, as shown in cut, leads to any part of deck, to which the large hand steering wheels are connected. The engine can be steered by either steam or hand through these large wheels by simply changing a clutch on the engine. Where it is desired to lead a long distance from the engine, as in the case of government cruisers, wire rope is used in connection with Hanscom's patent transmission drums for steam steering, which avoids the trouble of running shafting.



Cut No. 2 shows a patent automatic worm geared steering engine for steam only, or combined hand and steam. It is controlled by the small steering wheel in pilot house, which operates the same as an ordinary hand steering wheel. The automatic attachment is fitted on the engine and has stops for steam movement. The engine is kept in motion by revolving the small wheel in pilot house. The engine follows after the small wheel in either direction so long as it is kept revolving, and when the wheel is stopped the automatic attachment immediately acts to stop the engine.



Cut No. 3 is a new pattern of the combined steam and hand steering engine, worm geared, and designed to simplify construction and meet the requirements of those who prefer to have the steam steering wheel of the same diameter as the ordinary hand steering wheel. This engine differs from other combined hand and steam steering engine in having the automatic gear fitted on the engine instead of in the pilot house, which is considered an improvement. The change from steam to hand is made by simply turning a small wheel in the pilot house, which detaches the drum from the worm wheel, and moves a clutch on the automatic shaft into contact with the pinion, by the same movement. The lever which operates the clutch has a patent spring attachment, so that if the clutches do not meet fairly the spring allows it to give until the movement of the steering wheel brings it into position to slide in, so there is no danger (in the hurry to detach the drum) of jamming the clutch. The engine is fitted, in combination with other patents, with cut worm gear, Winter's patent oiling attachment and patent adjustable thrust bearings with double worm, by means of which any wear and lost motion can be taken up. It is also fitted with stops for steam movement, which prevents the engine from running past the hard over point and pnlling against the rudder stops. The large steering wheel with the column and gear takes the place of the ordinary hand steering gear, and the engine takes a direct pull to the tiller or quadrant, thereby dispensing with the expense of the purchase or sliding sheave.

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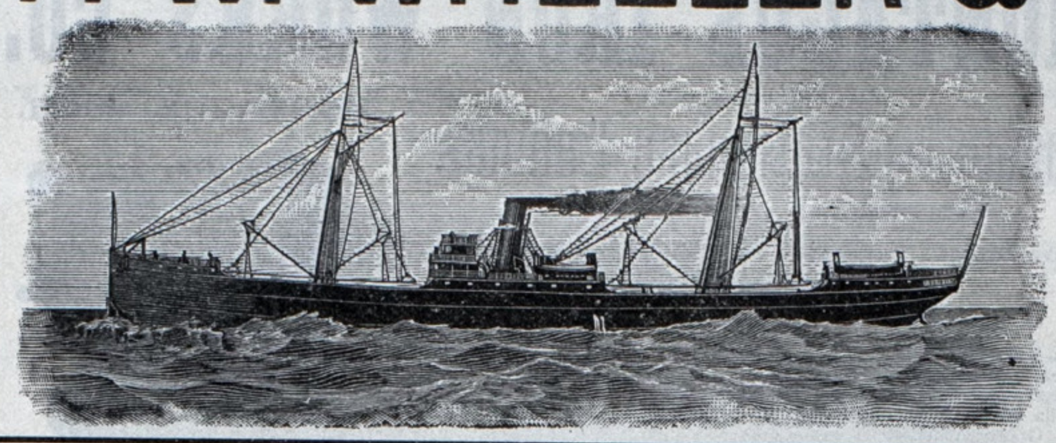

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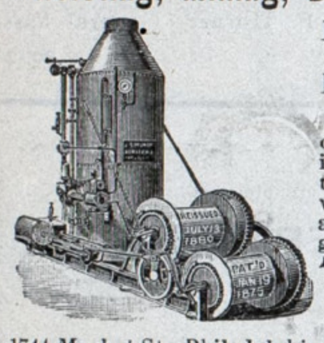

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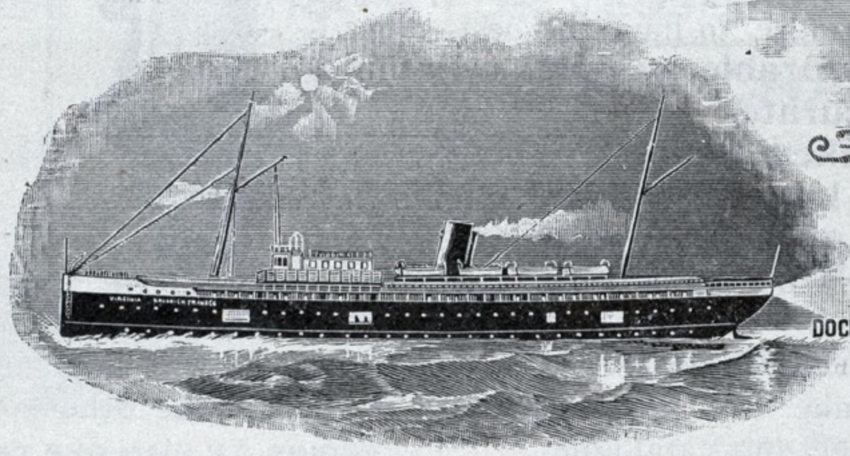

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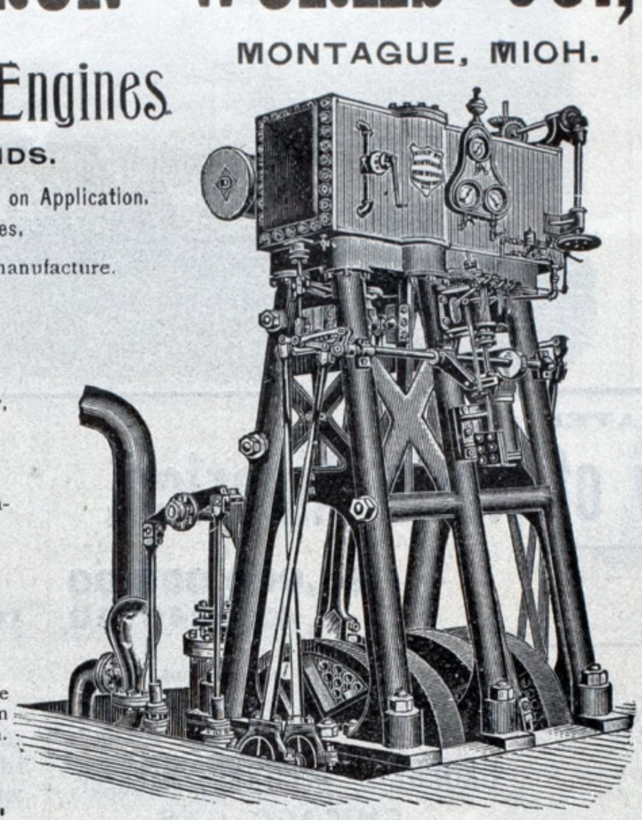

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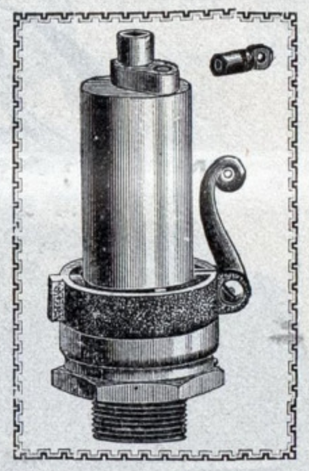

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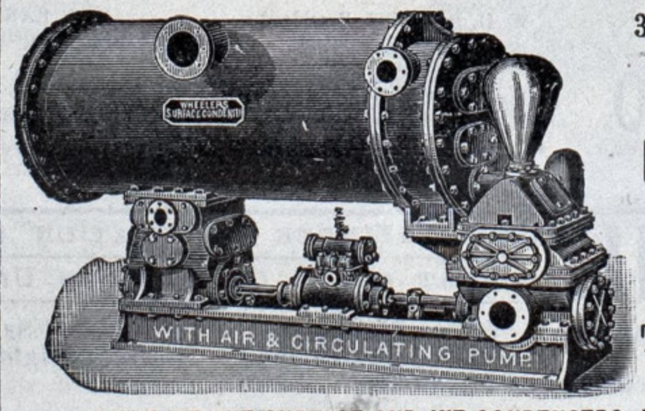

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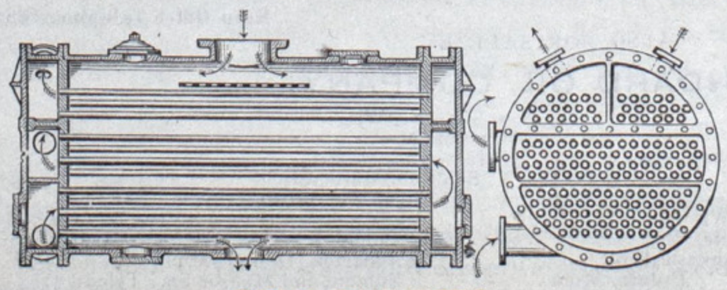

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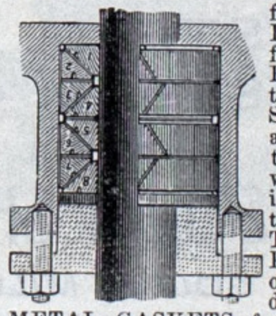

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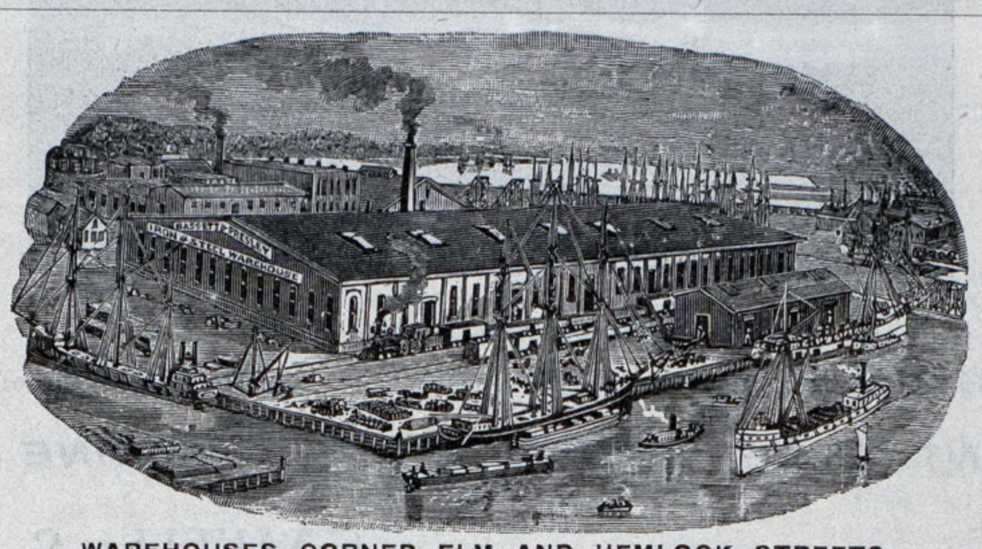

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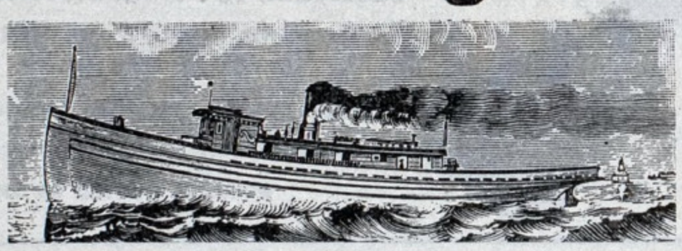

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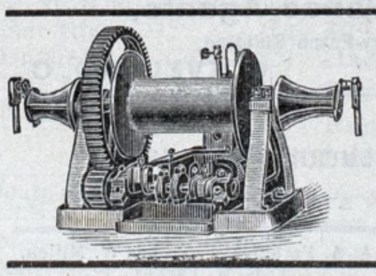

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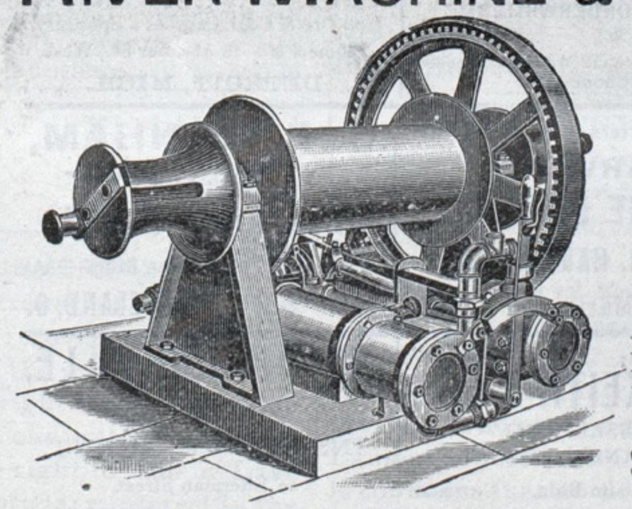

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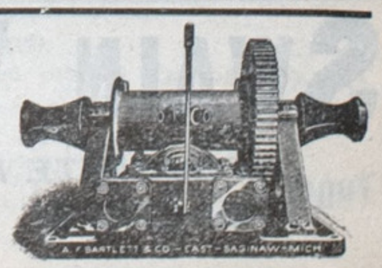

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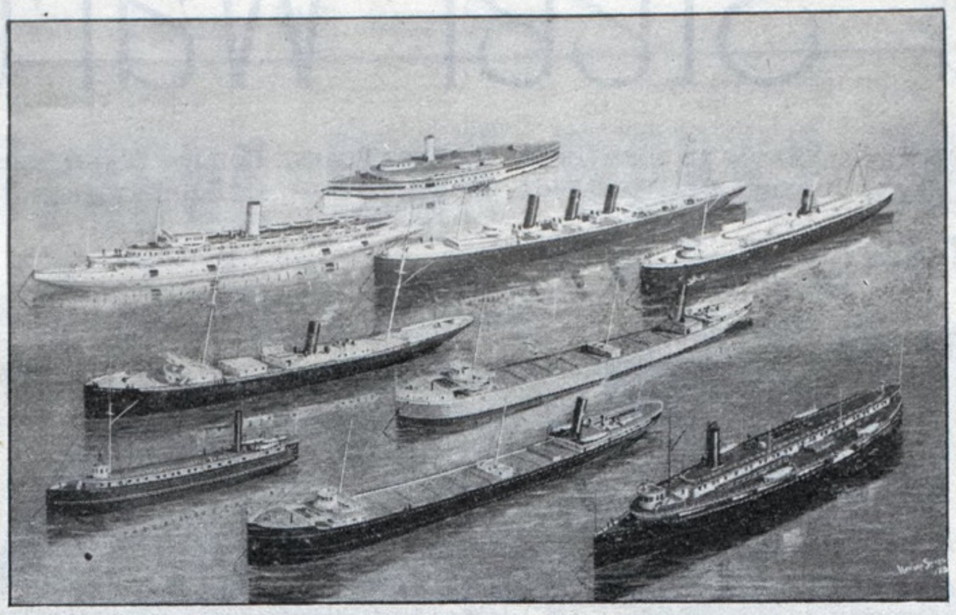

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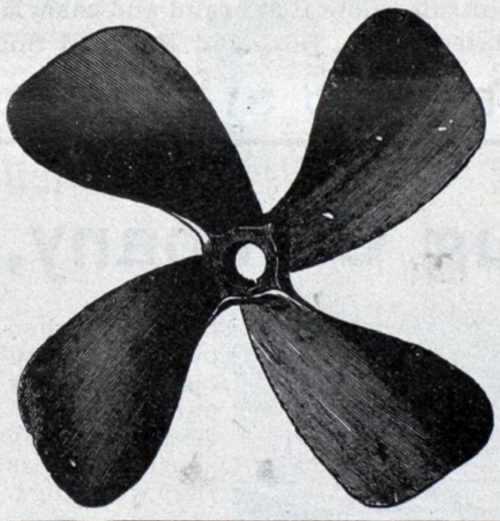

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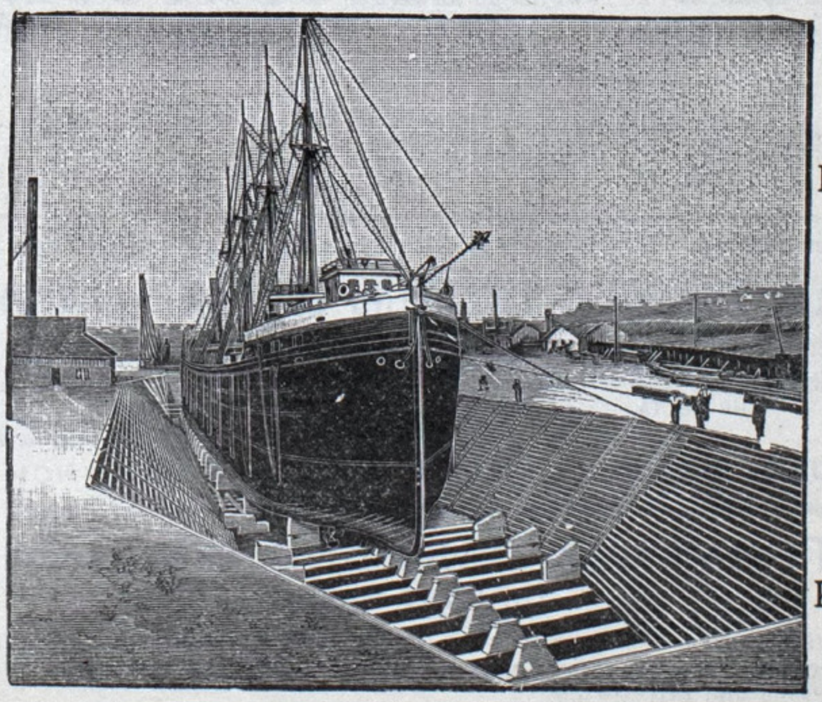

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